

ROYAL UNITED SERVICE INSTITUTION.

JANUARY, 1914.

SECRETARY'S NOTES.

I.—OFFICERS JOINED.

The following Officers joined the Institution during the month of December, 1913, viz :—

Captain F. E. Whitton, Leinster Regiment.
Lieutenant T. F. Besant, R.N.
Sub-Lieutenant H. H. Atkin-Berry, R.N.
Major S. E. Thomas, R.F.A. (T.F.).
Captain T. A. V. Wright, R.M.L.I.
Captain J. d'E. Fitz-E. Coke, A.S.C.
Lieutenant J. C. Routh, Cheshire Regiment.
Captain H. H. Gribbon, Hampshire Regiment.
Lieutenant V. H. Danckwerts, R.N.
Second-Lieutenant E. D. C. Hunt, Suffolk Regiment.
Captain W. B. J. Reid, 3rd Bn. Seaforth Highlanders.
Lieutenant A. W. Scrivener, 10th Bn. London Regiment.
Sub-Lieutenant A. G. Talbot, R.N.

II.—MEMBERSHIP.

The Council beg to report that during the past year 173 officers joined the Institution (against 232 in 1912). There were 165 withdrawals and 82 deaths (of which 26 were Life Members) making a decrease of 74 on the year. It is much to be regretted that the membership should have shown such a large falling off, and the Council trust that the members will assist in introducing new members during the coming year.

The details of members joining were :—

Regular Army	...	...	...	...	...	...	112
Royal Navy	...	...	...	...	...	...	27
Territorial Force (including Yeomanry)	...	...	...	...	...	...	15
Special Reserve	...	...	...	...	...	...	7
Indian and Colonial Volunteers	...	...	...	...	...	...	7
Royal Marines	...	...	...	...	...	...	3
Royal Naval Reserve	...	...	...	...	...	...	2

Total 173

III.—LECTURES.

The following Lectures have been arranged, viz :—

Wed., Jan. 14th. "The Uses of Aeroplanes to Army Medical Service in the Field." By Lieut.-Colonel J. F. Donegan, R.A.M.C. Lieut.-General E. C. Bethune, C.V.O., C.B., in the Chair.

Friday, Jan. 16th. "The Fallacies of the 'Great Illusion.'" By General Sir Edmund Barrow, G.C.B. Lord Sydenham, G.C.M.G., G.C.I.E., F.R.S., in the Chair.

- Wed., Jan. 21st.* "Organization for Policing, Feeding and Lighting a large city in Time of Strait." By Gordon Nichol, Esq., M.Inst. C.E.
- Wed., Jan. 28th.* "The Irish Brigade in the Service of France." By F. H. Skrine, Esq., F.R. Hist. Society (I.C.S. retired). Field-Marshal Earl Roberts, V.C., K.G., K.P., G.C.B., G.C.S.I., G.C.I.E., O.M., in the Chair.
- Wed., Feb. 25th.* "The Royal Naval Volunteer Reserve." By Commander The Marquis of Graham, C.V.O., C.B. Admiral-of-the-Fleet Sir A. D. Fanshawe, G.C.B., G.C.V.O., Vice-Chairman of the Council, in the Chair.
- Thurs., March 12th.* "The Status under the Hague Conference of Civilians who take up Arms during the Time of War." By J. G. S. Mellor, Esq., Deputy Judge Advocate. Colonel the Earl Fortescue, K.C.B., A.D.C., in the Chair.
- Wed., March 25th.* "The Siege of the Pekin Legations in 1900." By Colonel Right Hon. Sir C. M. MacDonald, G.C.M.G., G.C.V.O., K.C.B.
- Wed., April 1st.* "The Army Service Corps of the Territorial Force." By Colonel P. E. F. Hobbs, C.M.G., A.S.C.
- Wed., April 15th.* "The Defence of Localities against Aerial Attack." By Colonel L. C. Jackson, C.M.G., late R.E.

IV.—MILITARY HISTORY LECTURES at 4 p.m.

The General Officer commanding the London District has arranged for two courses of Lectures, which will take place in the Theatre of the Institution as follows:—

Tuesday, March 24th,

Thursday, March 26th,

Friday, March 27th.

"The Campaign in 1866 in Bohemia," by Lieut.-Colonel Hon. G. H. Morris, Irish Guards.

Tuesday, April 7th,

Wednesday, April 8th,

Thursday, April 9th.

"Napoleon's Campaign of 1806," by Major G. S. Clive, Grenadier Guards.

Members of the Institution are eligible to attend the same.

N.B.—The hour of the lectures is 4 p.m.

V.—IMPORTANT STANDING ORDER.

The Council has recently passed the following Standing Order, *viz.*:—
"A member in arrear with his annual subscription after March 31st of each year, shall not be entitled to use the Institution Buildings, receive the JOURNAL, or participate in any of the privileges accorded to members."

VI.—ADDITIONS TO MUSEUM.

(6642). An old Powder Horn, history unknown; the base has a wooden cover and it is charged by removing a screw plug.—
Given by Colonel V. A. Couper.

- (6643). A Water-colour Sketch of the wreck of H.M.S. "Eurydice," after she was towed into Portsmouth Harbour; executed in 1879 by Wm. Parkinson.—Given by the artist.
- (6644). Field-Marshal's Saddlery and Horse-Trappings (by Whippy), formerly the property of Field-Marshal the Viscount Wolseley, K.P., P.C., G.C.B., G.C.M.G., O.M.—Given by the Dowager Viscountess Wolseley.
- (6645). A Record of "The Waterloo Ball," with photographs and plans.—Given by J. Danvers Power, Esq.
- (6646). Nine Coloured Engravings published in 1854 by Ackermann & Co., depicting the uniform of the First Regiment of Guards from 1660.
- (6647). The following Medals and Decorations which formerly belonged to Major Joseph Hely, 11th Hussars. This officer had previously served as a Captain in the 1st Lancers of the Anglo-Spanish Legion, from 1835 to 1840:—
- (1) Crimean Medal with three Clasps.
 - (2) Turkish Military Medal for the Crimea.
 - (3) Spanish Decoration for Military Merit.
 - (4) Spanish Decoration for the Battle of Morella, 30th May, 1840.
 - (5) Spanish Decoration for the Engagement at Irun, 17th May, 1837.—Bequeathed by the late Mrs. E. J. Hely.
- (6648). Officer's belt Buckle, Royal Marine Light Infantry, worn up to 1857.
- (6649). Officer's Light Infantry Sword, *circa* 1800. On the blade is engraved "51st Light Infantry," "Minden," and a crest, being a kite's head with the initials J.T.K. It formerly belonged to Lieut.-Colonel J. T. Keyt, C.B., who joined the 51st in 1798, and served through the Peninsular War and the Waterloo campaign.—Given by W. E. Manners, Esq.
- (6650). Round Wooden Box with the following inscription, *viz.*:—
 "This is made from a piece of H.M.S. "Gibraltar" of 80 guns, built by the Spaniards on the Island of Cuba, and launched in 1751 by the name of "Phoenix." She was captured by Sir George Rodney in 1780, commanded by Admiral Langara. The Admiral's flag was presented to His Majesty, King George III., by his son, Prince William Henry, then a midshipman in the fleet. "Well does Great Britain merit the Empire of the Sea, when the humblest stations of her Navy are filled by Princes of the Blood," said Admiral Langara. She was taken to pieces in Pembroke Dockyard in 1836.—Given by Frederick Couper, Esq.

Attention of members is drawn to the Museum Purchase Fund.

The amount taken at the Museum Public Entrance during December was £32 os. od.

VII.—REGIMENTAL BADGES.

The officer commanding the Depôt of the Yorkshire Regiment (19th Foot) would be much obliged for information as to the whereabouts of Cross-belt Plates, Gorgets, Shako Plates, or other regimental decorations worn previous to 1875, which are required to complete a regimental collection.

PRINCIPAL ADDITIONS TO LIBRARY.

December, 1913.

- Uebersicht der Geschichte der Hannoverschen Armee von 1617 bis 1866, von Einem Hannoverschen Jäger Kaupmann Schütz von Brandes.** Compiled by Captain J. Freiherr von Reitzenstein. 8vo. 6s. (Hah'sche Buchhandlung). Hanover, 1903.
- The Hussar.** By the Rev. G. R. Gleig. 2 Vols. Crown 8vo. 8s. (Henry Colburn). London, 1837.
- Loss of H.M.S. "Venerable" in Torbay.** Compiled from official and authentic sources by Colonel Gerald E. Boyle. 8vo. pamphlet. (Presented by the Compiler). Torquay, 1913.
- A Cavalry Officer in the Corunna Campaign, 1808-1809. The Journal of Captain Gordon, of the 15th Hussars.** Edited by Colonel H. C. Wyllie, C.B. 8vo. 8s. (Presented by Colonel H. C. Wyllie). (John Murray). London, 1913.
- Vestiges of Old Madras, 1640-1800.** By Lieut.-Colonel H. D. Love. (Indian Record Series). 3 Vols. and 1 Vol. Index. 8vo. 36s. (John Murray). London, 1913.
- Táctica de Infantería para el ejército de la República Oriental del Uruguay—Instrucción de Compañía.** Crown 8vo. (Presented by Lieut.-Colonel Sir R. C. Temple, Bt., C.I.E.). Montevideo, 1888.
- Military Antiquities respecting a History of the English Army, from the Conquest to the Present Time.** By Francis Grose. 2 Vols. 4to. (Presented by H. H. Harrod, Esq.). (S. Hooper). London, 1786-88.
- Manuale di Topografia Pratica.** By Lieut.-Colonel Roberto Barbetta. 8vo. (Presented by the Author). (S. Lapi). Cita di Castello, 1913.
- The Brigade-Major's Assistant.** By a Brigade-Major to the Forces. 12mo. (Presented by Colonel F. E. Wallerstein). (T. Egerton). London, 1806.
- Méthode d'instruction du groupe d'infanterie.** By Commandant Rozé. 8vo. 4s. (Presented by the Publishers). (Librairie Militaire Chapelot). Paris, 1913.
- The Battle of Encounter.** By Lieut. H. von Kirsling. Translated by the General Staff, War Office. 8vo. 1s. 6d. (Harrison & Sons). London, 1913.
- The War in the Peninsula—Some Letters of Lieut. Robert Knowles, of the 7th, or Royal, Fusiliers.** Arranged and annotated by his great-grand-nephew, Sir Lees Knowles, Bt. 8vo. 2s. 6d. (Tillotson & Son, Ltd.). London, 1913.
- War and Sport in India, 1802-1806. An Officer's Diary.** By Lieut. John Pester, H.E.I.C. 8vo. 15s. (Heath, Cranton & Ouseley, Ltd.). London, 1913.
- A Narrative of the Campaigns of the Loyal Lusitanian Legion, under Brigadier-General Sir Robert Wilson, with some account of the Military Operations in Spain and Portugal during the Years 1809, 1810, 1811.** By Colonel William Mayne. 8vo. (Presented by Lieut. J. Beach Whitmore). (T. Egerton). London, 1812.
- A Brief History of the King's Royal Rifle Corps.** 8vo. (Presented by Captain L. S. Challis, Queen's Westminster Rifles). Winchester, 1912.
- Deuxième Conférence Internationale de la Paix—La Haye 15 Juin—18 Octobre, 1907. Actes et Documents.** 3 Vols. fol. 30s. (Martinus Nijhoff). Hague, 1908-09.

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[Authors alone are responsible for the contents of their respective Papers.]

THE DUTIES OF LOCAL AUTHORITIES IN WAR TIME.

By COLONEL W. G. SIMPSON, 24th Bn. London Regt.

On Wednesday, November 26th, 1913.

MAJOR-GENERAL E. T. DICKSON in the Chair,

THE CHAIRMAN: Ladies and gentlemen, I have the pleasure to introduce to you, Colonel Simpson, who has come here this afternoon to deliver a lecture, the title of which you know.

LECTURE.

TO many people the idea of war in our own country is so absurd that I suspect the exercise of determining the duties of Local Authorities under war conditions would seem to them as useful as that of the famous blind man who went into a dark room to catch a black cat which—was not there. Fortunately I have not to concern myself with the possibility or otherwise of invasion; but I am on quite safe ground when I say that if such a thing did occur certain measures should be taken by the Local Authorities to help their own military forces, and assist the people whose guardians they are to support the hardships which they have to undergo; and that proper assistance on their part would have a very marked effect in each sphere of their activity.

The question of how the civilian inhabitants of a country can assist in a war is really very important. Even in countries like France and Germany, whose fighting forces are always

considered enormous, there will be about 20 or 30 non-combatants to every soldier actually taking part in military operations. But these peaceful millions in every country will not be able to stand aloof and look on at a sort of glorified military tournament with extra thrills; they will be involved whether they like it or not; and it is far better under the circumstances that they should understand and undertake their legal and patriotic duties. "Until civilized societies have ceased to settle differences between nations by the barbarous appeal to force, war is a possibility, and it is the duty of citizens of a world-wide empire to know its rules in order that they may observe them." By knowing the rules they may save themselves much hardship; by foresight they may be of use even without firing a shot. There is probably no civilized people in which the co-operation between the army and the inhabitants in war time is so little understood as in ours; and it is hardly too much to say in the century-old words of Sir John Moore: "At this instant if they were attacked, the military excepted, not a man would know what is expected of him."

From whom is a population likely to seek information about what it is to do and how to behave in time of difficulty? Naturally from its Local Authorities; and it is generally understood now that, although Central Government officials would withdraw from the invaded part of a country, the Local Authorities ought to remain, because by doing so they can best look after the interests of the inhabitants. To do as the Austrians in 1866, and in some cases the French in 1870, and leave the people without any buffer between them and the invaders, results in more suffering to the former than to the latter, and Bluntschli warns all Governments of the "very grave responsibility they would take upon themselves in thus abandoning their subjects."

But before we consider what Local Authorities should do, let us consider briefly the exceptional circumstances in which they would have to act.

There can be no doubt that in any civilized country, when war is declared, even if there is no immediate prospect of invasion, there will be terrible confusion. Various conditions will decide whether there will be much or little, but almost always there will be much commercial panic, involving the disappearance of capital and credit, the ruin of businesses, the closing of workshops and industries, the throwing of people out of employment, and an increase in the price of food rendering that large proportion of the people which is only just able to subsist by its own efforts incapable of doing so any longer. From the administrative machinery by which the country is governed, to the machinery by which even each family lives in harmony, all will suffer from the general agitation. These horrors will increase with the risk of actual invasion; and we no more than others can look forward confidently to meeting such a catastrophe

calmly, for not only is our general situation and state of preparedness at any rate no better than theirs, but our past history bears witness that in such times, along with fine examples of courage and hardworking organization, there have been the most pitiful exhibitions of ignorant cowardice and frightened brutality, both on the part of responsible leaders and the nation.

In the midst of all this the people will find in many places large bodies of their own troops assembling. In some cases it may be necessary to quarter and feed these by requisition on the inhabitants; and with or without the goodwill of the people requisitions may be made for whatever is necessary to further the military operations; not only for material in the shape of vehicles, food, tools, and animals, but also for men to assist in all sorts of ways—the German law, for instance, includes men for drivers, guides, for building fortifications, and damming rivers and harbours.

The maintenance of order becomes of the utmost importance. But no country can expect to be without a certain number of dissatisfied and seditious men who, if unchecked, may do great harm by encouraging discontent among those who feel the first effects of shortage of food; so that the relief of the poor stands out as not only humane but as a measure of great consequence.

To assist their own troops by providing them with everything necessary, and by preventing their efforts being baulked through internal dissension, is obviously the duty of the Local Authorities; but in those parts where the enemy at last penetrates, the duty of protecting the people as far as possible from the extra hardships they are likely to suffer is no less obvious.

It is almost certain that in future, as in the past, commanders of invading armies will try to keep the civilian population quiet by soothing proclamations. It is to their interest that their task should not be made harder by having to deal with refractory inhabitants, and unless these really intend to take an open part in hostilities it is better for them that they should remain definitely passive. The Red Prince in 1866 proclaimed: "We are not at war with the people and country of Saxony, but only with its Government." The King of Prussia in 1870: "I make war against French soldiers, not against French citizens." Buller gave out: "The quarrel England has is with the Government, not the people of the Transvaal"; and we may be sure that no civilized army will treat with *unnecessary* brutality inhabitants who give them no trouble, although they can no more make their lot a pleasant one than they can change the whole nature of war. But no commander will feel it his duty to allow his troops to suffer hardships for the benefit of the enemy's inhabitants, nor fail to visit offences against him with great severity. Bismarck was once roused by what he considered the false humanitarianism of some influential personages into saying: "Our *first* duty of humanity is to think of our own soldiers, and see to it that they are not exposed to unnecessary suffering

and shot dead into the bargain"; which seems reasonable enough, for after all charity begins at home.

It is likely that in occupied territory the subordinate Local Authorities would be invited by the occupant to remain in discharge of their functions, although they cannot be forced to do so, nor can they be forced to take an oath of allegiance, it only being required of them that they should agree to do nothing to the prejudice of the occupant, and through them all demands on the inhabitants would be made when it was possible to be done without inconvenience to the troops. But these demands are likely to be of a more grasping nature than those of their own army, and payment may not be given for goods supplied or work performed, although as far as possible compensation would be given later on by the inhabitants' own Government. In many cases, especially in towns, a money contribution, as being more convenient to both sides, would be demanded instead of supplies in kind.

It is to the Local Authorities that the inhabitants must look to arrange the fair distribution of the demands among them, and for indemnification later on.

So long as the inhabitants remain inoffensive, so long is it probable that the occupant soldiers will remain well-behaved. In 1866 the Prussians were mostly on excellent terms with the Saxon and Austrian countrymen who gave no trouble; and Bismarck was able to write to his wife after Königsgrätz: "In spite of empty stomachs, wet clothes, damp quarters, little sleep, and boots with soles falling off, the soldiers are friendly towards everyone. They neither plunder nor burn, but pay when they can." But this behaviour is not likely to last if the inhabitants show hostility, or if the war becomes tiresome. If they prove troublesome, even in petty ways, they are sure to feel the heavy hand of a soldiery that gradually becomes more ferocious. An abusive epithet from a window, a toy balloon puffed into the enemy's ranks in the street, a "smart" remark, may arouse terrible retaliation and an unsympathetic reply upon complaint to the military authorities. You cannot count upon such forbearance as was shown by Farragut when the Mayor and people of New Orleans surged jeering and dangerous round his parlementaire. "The wretches are crazy," he said, "I can't fire on howling maniacs"; but his successor quickly showed the inhabitants of the occupied town that he would stand no nonsense.

But beyond mere cheek and offensive behaviour the crimes for which inhabitants will suffer punishment are numerous. To fail to deliver anything requisitioned, to guide badly, to spread false news, to destroy railways, telegraphs, or bridges, to hide arms, to recruit for their own forces, "to commit any acts detrimental to the Army," as the Japanese Regulations in Manchuria comprehensively put it, will entail prompt punishment. And there is no crime so ruthlessly chastized as that of taking

part in hostilities without being a recognized combatant and wearing a distinctive *fixed* emblem to mark the fact as is required by the customs of war. A *levée-en-masse* is only recognized as being lawful if the people rise spontaneously before a district is actually occupied; and if they have no time to arrange for uniforms.

There are two reasons why it is inadvisable to pull pussy's tail: First, because it is not right; and secondly, because cats have claws. And there are two reasons why it is inadvisable to act as a *franc-tireur*: First, because it is not lawful; and secondly, because the punishment is almost invariably death.

Hostages, generally prominent citizens, may be taken to ensure the fulfilment of requisitions or the good behaviour of a neighbourhood; and contributions and fines may be levied—the total in 1870 was enormous—villages may be burnt by order; flogging, imprisonment, death by shooting or hanging—even the cruelty of being made to dig their own graves was sometimes inflicted in 1870—such are the punishments for “acts detrimental” to an invader's army; and neither sex nor age is spared. An observer of the occupied territories in 1870 records that the rough rules seemed to be: “For every offence punish someone, the guilty if possible. Better a hundred innocent should suffer than one guilty escape. And when in doubt shoot the prisoner.”

Under these terrible circumstances the people surely have a right to expect expert advice and care from those whom they have elected and who have been appointed as their guardians.

In France the Local Authorities have the advantage of being in possession of a handbook, written by M. Paul Dislère, which by presenting to them their duties in a simple and pretty comprehensive form should be of great assistance, even to the not very intelligent authorities of insignificant villages. Instead of attempting to lay down in detail what our own authorities should do and how they should share the responsibilities, a labour that can only be undertaken by Local Government and military experts in co-operation, for the subject probably bristles with far more difficulties here than anywhere, I will run through the duties of the French Maire. There is hardly one of these which would not be of equal importance in this country, though because of there not being a single man made responsible in each area there might be a scramble among the different authorities for the honour of carrying them out.

In France the history of Local Government is one of self-administration in early times, extinguished later by a powerful bureaucracy, which has eventually given back many of the powers it had taken away. But in principle the local areas are governed according to the will of the Central Authorities through professional officials whose work is tempered by lay criticism; thus differing from English areas which, on the contrary, have a lay self-government tempered by professional

advice. In spite, therefore, of the general advance in recent years of control by the Central Authorities in England, a control, however, which is so far by no means bureaucratic, the French system seems to have the advantage *for war purposes* of bringing all areas more directly under the hand of the Government. The country is divided into Départements, divided into Arrondissements, divided into Cantons, divided into Communes, which are the units of self-government, as the Parishes in England; but the Commune may be either very small and have little administrative importance as with our smaller Parish, or it may be a large town like our Municipal Borough. The head and executive officer of the Département is the Préfet, who is a professional officer; that of the Commune is the Maire, who is unprofessional, elected for four years and unpaid, but who represents the Central Government all the same. He publishes and enforces the laws and controls the police. He has Adjoints to assist him, and a Municipal Council, whose work is largely advisory; but the Maire himself is the person who is responsible. It will be seen then that his position is very different from that of our Mayors or Chairmen of Parish Meetings.

The first and most important duty of the Maire on mobilization for war being ordered is to pass on the order to those of the inhabitants who are liable for military service. He assembles the Municipal Council, with whose assistance he fills in the dates in the mobilization notices and arranges for these and the notices requisitioning horses and vehicles to be exhibited, if necessary ordering anyone convenient to take them to distant hamlets; and he forthwith sets about procuring substitutes for those of the employees at the Mairie who are called up for service. He has the bells rung to alarm the district, and sends round the crier with the news. He particularly warns men of the seriousness of not obeying the mobilization order, even charging the relatives of those who are absent to communicate with them and advise immediate compliance.

In this, as in every other case, it is one of his most important functions to give advice which will prevent anyone from forgetting or wilfully disobeying what he is legally required to do; or what it may be to his own or his country's benefit that he should do.

He goes into such detail as informing men that they should take with them two shirts, a pair of drawers, two handkerchiefs, a pair of boots in good condition and broken to the feet; and get their hair cut. As soon as these men have left the Commune for their stations he makes sure that none are left who are liable for service, and with the aid of the Municipal Council considers what measures shall be undertaken to assist the necessitous families of men who have gone.

In the requisition notices are indications of the time and place for delivering all horses and vehicles required. Even

those which happen to be passing through the Commune at the time, as in the case of a circus, are not exempt. The horses have to be brought properly shod, with a bridle and the harness which was last examined at the annual inspection. He gives the register to the Requisition Commission wherever it may sit, personally leading his convoy to the place and marshalling it in convenient order. Motors are not collected, although warned by him, and they go straight to the place of collection. If the Commission happens to sit in his own Commune he is responsible for providing the staff of clerks and shoeing-smiths that they need, and for arranging measures of police to keep order. If any of these convoys pass through his Commune he must provide them with accommodation till they proceed. The Requisition Commissions consist of military officers, representatives of the Communes, and veterinary surgeons. It will be noticed that the animals, etc., are brought to them instead of being collected from the owners as in England; but our authorities are satisfied that our system suits our needs best.

It should be arranged that the children of the Commune should be kept at school and someone procured to superintend them if necessary. It was suggested a year or two ago in a paper read at the R.A. Institution that our schools should be built so that after mobilization they would be quite suited to the requirements of the army. But except for a period of unusual pressure during which such large buildings would be useful to troops it would be important that the children should be occupied and kept out of the way. The Germans were particular in 1870 that the French schools should be opened if they had been closed, and should remain at work at the cost of their own Communes; and orders for this to be done were received by the Maires from the German *Préfets* of occupied territories.

The Maire must be prepared to meet the requisitions of the Army for lodging, food, transport, or whatever may be necessary, the decision as to the necessity or otherwise remaining with the military. The usual practice is for the fighting columns to exploit as far as they can their own immediate neighbourhood, although the more distant areas do not escape, for the supply officers have to use districts both far and near to obtain all they require for the Army. In order to facilitate matters he should have in peace time a list already prepared in ink (not in pencil, because some enterprising inhabitants might be able to get at it and alter it to their own advantage), showing the number of men and horses that can be accommodated in every house and building in the Commune. It is advisable that this list should be capable of being easily destroyed so as to prevent its falling into the enemy's hands and being of assistance to him. Directly he is informed that troops are on the way to the Commune and will need accommodation he should go to the Mairie, warn the people that billets are likely to be required,

have empty houses opened (for no one through absence can evade the general duty), and appoint from the Municipal Council what I will call a "Buffer" Committee of four who will assist him in case of difficulties in apportioning the troops among the inhabitants. This committee has no actual power, but it is useful for soothing the susceptibilities of infuriated householders who are sure that the Maire is working off an old grudge against them and is saddling them with more than their fair share. Sometimes in 1870 inhabitants were so clamorous in their complaints when hostile troops were detailed to them that the Maires threatened to abdicate and leave them to the tender mercies of the soldiers, which quickly brought them to their senses. It is, of course, for the military to say what part of the Commune they intend to occupy if they do not require the whole of it; and the only houses exempt are those in which public money is kept, or which are occupied by solitary widows or spinsters, female religious communities, and some military officials. If detachments have to go to distant buildings guides should be sent with them. Complaints by the inhabitants about damage done by the troops are brought to the Maire, who investigates them and records them for compensation.

In case the troops serve upon him requisitions for any form of supplies, and it is through him that this will be done except in cases of urgency, the Maire consults the "Buffer" Committee, and with its assistance decides whether it is better to obtain the supplies by demanding a proportion from each inhabitant, or whether the Commune shall purchase the whole amount and share the expense. In the first case he sends a notification to each inhabitant informing him what and how much he has to provide, and the time at which he must bring it to the Mairie. A receipt is given for it and the whole amount collected is then handed over in bulk to the officer. Under some circumstances a distant hamlet might have to hand over goods direct to the soldiers, but in this case the receipt given by the officer is brought in to the Maire, who furnishes one in the name of the Commune.

It will be noticed that careful arrangements are made so that every person shall be indemnified for whatever goods he has delivered and whatever loss he has suffered; and later on the Commune recovers from the Central Government the total value, which is then distributed among the inhabitants in return for their receipts. Absentees do not escape, for their houses are opened by the Maire in the presence of two witnesses, and the required articles are removed. If any person has not carried out his order by the proper time, the Maire informs the military, who then take matters into their own hands and remove the goods by force, while the troublesome owner is liable to be punished.

If the second method is decided upon, and in many cases it will be more convenient as long as time permits, the Maire

summons those inhabitants that he considers are likely to possess the goods needed, and proceeds to purchase them in the name of the Commune at as reasonable a price as he can, recovering the cost later as before. If it happens that a demand is made for more supplies than he considers the Commune is able to furnish he complains to the officer and attempts to have it altered; but in case the officer proves obdurate he records his protest in writing, and after producing all that he can, stands aside and allows the officer to make any further demands on his own responsibility and direct to the inhabitants. It is always considered reasonable even by hostile troops that sufficient supplies should be left to the inhabitants for them not to be reduced to serious want; but if the Maire considers there is danger of this he should send to neighbouring Communes for assistance.

Sometimes troops will require that the people with whom they are billeted should supply them with food. This is the method known as "Billets with subsistence," and it includes shelter, straw, bedding if ordered, but not unless, fire, light, and food. It is recommended in the British Regulations as being convenient during an advance, but the French, like the Germans, are inclined to restrict its use to small bodies of troops, except in case of a late arrival in quarters, or some such exceptional circumstance, and then the Maire warns the inhabitants that they must share their food with their guests, who must be satisfied with the usual food of the country, even if it does not appeal to their palates (non-garlic-eating Northerners, for instance, would have to make the best of a bad job during operations on the Mediterranean coast).

If men are required as guides, or drivers, or boatmen, or labourers, or vehicles are needed, the Maire consults his "Buffer" Committee and decides to whom the demand shall be made for service, informing these that they will receive food, quarters, and pay while acting, and that they are liable to severe penalties for disobedience. Large *corvées* were sometimes requisitioned in 1870, as, for instance, when parties were sent into the Forest of Orleans to cut fuel for the troops, who were suffering from the inclement weather.

As regards special police measures after mobilization the Maire is responsible that there is a careful watch kept over strangers and vagabonds in the Commune, and he has these brought before him for examination. Naturally more care is displayed in places near a frontier or in fortresses than in less important parts, and it is obviously necessary that care should be taken by the police to supervise the doings of persons who have no ostensible business and are not known. It is quite outside the duties of a Maire to busy himself with delicate measures of counter-espionage, but it may be, especially in large Communes, that fixed-post agents have given rise to legitimate suspicion by an expenditure noticeably beyond the amount of

their trade, or that the neighbourhood of works of art such as railway bridges may render it advisable to be doubly careful against war-treason; and he must ensure that all inhabitants of either sex who cannot be classed as good citizens receive at this time extra supervision.

While mobilization and concentration of troops are being carried out it is better that public entertainments should be stopped: theatres, concerts, dancing-halls closed; crowds not permitted to collect, and rowdiness and drunkenness firmly repressed. Alarming noises of all sorts such as bugling and drumming and bell ringing should not be allowed. Public-houses should be closed at an early hour, about eight or nine at night, and not opened too early in the morning. If necessary, orders should be issued about the special lighting of streets, buildings, and vehicles left in the roads, by means of lanterns or otherwise. Public clocks should be regulated by the legal time so that troops may not be misled by them. When troops are present it may be necessary to consult the military authorities and institute markets; fix the hours for these, issue warnings against the sale of unwholesome or underweight provisions, and publish the hours during which the inhabitants may use watering places, so that confusion does not arise between the military and civilians. Special sanitary precautions against human and animal disease should be taken, especially if there is any reason to suspect it, and the Maire should issue directions in detail as to what measures he is informed are advisable. The local Press should be supervised. Newspapers must send in six copies to the Mairie at the moment of publication, and the military authorities should be informed of any news which might be of interest to them or might tend to give rise to trouble among the inhabitants. It is well known how much an army is indebted to the Press of its enemy for providing information about the position and condition of troops; and, well drilled as even the German Press was in 1870, the French Staff have acknowledged their gratitude to it; while the effect of seditious articles may be very harmful. "Our poisoners of public spirit, our criers of 'Vive la paix!' and our publishers of articles against the Army and the war contributed to the defeat of France as much as the faults of the commanders," wrote the converted internationalist Paul Déroulède.

The Maire should warn inhabitants against firing at carrier pigeons, and order any person finding one to bring it to the Mairie, whence it should be forwarded to the nearest military authority without its feathers or any attached message being disturbed. If troop trains happen to stop at stations in the Commune the inhabitants should be told that they must not through mistaken kindness give any alcoholic liquors to the men, although tobacco and cigars will no doubt be acceptable.

In Communes near the frontier, which might be invaded quickly, special measures are needed. Recent history shows us

that if an invasion is to take place it will do so without much warning; so that what has to be done should be done without delay. The municipal archives are not likely to be of much assistance to the enemy, nor is he likely to destroy them wilfully, but as accidents will happen, many accidents, it is advisable to send the archives for safe custody to superior authorities in the interior. Arms which have been used by rifle clubs and are not needed on the spot should be sent back to the ordnance stores. In some cases cattle and supplies will be evacuated into the interior. This, however, should not be done unless ordered by the military authorities, who alone know whether it suits their plans; and it is probable that it would be arranged by the Préfet of the Département in consultation with the military. As a German authority says: it is likely to do more harm than good if an offensive movement is expected to be undertaken shortly; it is very difficult to carry out with such thoroughness as to be really effective; and unless it is complete it is simply ridiculous. Elaborate arrangements were made in England during the Napoleonic scares for "driving" the country and destroying everything without mercy, but the policy was eventually abandoned, because, as Sir John Moore said, "If there were a fortnight's notice it would be feasible, but as there would only be a few hours' it was not so in such a well-stocked country as this"; and anyway, "it might be laid down as an axiom that as long as an enemy were permitted to stand on English ground so long would he subsist on English property." In 1876 it was arranged that if it *were* ordered, the goods to go were to be brought to the Mairie, where they were valued and receipts given for them so that compensation could be arranged.

The rush of men from the Commune to the Colours, the collection of the transport, and the passage of the troops into the areas of concentration may be followed by the actual outbreak of war; and in this case all the measures that have been just described continue to be necessary, but others of great importance may have to be taken as well.

It may happen that the enemy's troops appear in the neighbourhood, and utilize its resources for quartering and supply by requisition. The German Regulations recognize that in the interests of the troops themselves the inhabitants should be treated with the greatest consideration, and that they should not be made desperate by their misery, as in fact do our own and the French Regulations, but in the next sentence it is plainly shown that consideration is not to be interpreted so as to mean leniency at the wrong time, which may lead to hardships for the troops; and the voice of their General Staff makes it known that "any feeling of generosity aroused by the misfortunes of the enemy is out of place." If there be leniency, it is obviously calculated leniency. Tired men *must* be housed and hungry men *must* be fed, without friction if possible, if not, with; and no rules nor billeting tables, nor statistical data,

nor the convenience of inhabitants will receive more respect than they are worth.

There is some grim humour in the story of a notice seen in a certain French town after the German troops had marched in. A good lady was in the habit of displaying outside her house the intimation that:—"Madame Bériot receives boarders." And underneath, the billeting officer's curt chalk-mark ran:—"7 men and 13 horses."

To Marshal v. d. Goltz the using the resources of the country by troops on the march means "sitting at the table of the citizen in whose home they are billeted, and *investigating his cellar.*"

The requisitions of friendly troops may have already emptied the countryside a good deal, but the records of the German demands in 1870 show how far-reaching and sweeping the new ones may be. Not only were necessities taken, such as bread, boots, cattle, forage, horseshoes, ink, pens, printing machinery, socks (these were much sought after), tools, tobacco, and wine, but also luxuries, such as sheets, coffins, looking-glasses, 40 cocks-combs for a princely lunch table, and—a boot jack,

There is no law of his country which forces a Maire to assist the enemy in procuring these things. It is, however, certain that either he or some other prominent inhabitant will be ordered to produce them, and in order to prevent the ill-treatment of inhabitants, and injustice to them, the Maire should undertake the carrying out of the requisition in such a way as to satisfy the troops and distribute it fairly among his people. It is possible that payment may be made on the spot; and the principle of payment has become recognized as being generally best even by invading armies, and German opinion, cynical perhaps, but based on experience, is that: "When nothing appears to be left, and even force fails, money will still always procure something"; for the canny inhabitant will make money when he can in spite of public opinion, which may, perhaps, render it wise to "protect him, by a show of compulsion, against the resentment of his neighbours." If payment is not made the cost of the requisition will be divided by the Maire generally among the Commune, and not allowed to fall heavily on the principal sufferers. There may be a requisition for men to perform work of various kinds, and this has to be obeyed so long as the work is not of a warlike character against their own troops. A demand may be made for guides; for hostages, to ride on locomotives, or to ensure the delivery of supplies, or for the good-behaviour of a district, in spite of this being considered odious and condemned by jurists; but the Maire should refuse to detail men for such duty, allowing the enemy to do their own dirty work.

The police regulations are now the concern of the enemy, although the Maire may be asked to make them known to the people, and if the occupation of the territory is lengthy the Maire will probably be invited to carry out his usual functions, subject to special conditions. He can then do much to obtain favourable treatment for his area, although even then, if his protests become too loud and insistent, he may be told, as was the Maire of Reims, that it was no use protesting against any order that was *considered necessary*.

If the Commune happens to be in rear of its own Army, which is engaged with the enemy, it is certain to have a very troubled time. The Provost-Marshal will instruct the Maire as to what police measures he is to take for the assistance of the Army, especially as regards the passage of convoys of various kinds through the Commune, and the disposal of isolated men. Of these there are certain to be a number, slightly wounded or quite hale, who are either looking for their units, from which they have unavoidably become separated, or are wholeheartedly shirking. The Maire should have deserters and stragglers brought before him and deal with them according to his instructions: the seriously wounded and ill who may be found should be placed in the care of inhabitants or sent to a hospital, while the slightly wounded should also be tended; but as in 1870 it was found that many of these thought they had done enough and went home, or managed to malingering while under the care of municipal authorities who were over-kind and slack, and that they did not rejoin the Colours as soon as they could, the Maire should remember that they are still under military law, and should see that his Commune does not become a shelter for these discreditable weaklings. The regular convoys of wounded from the Army may need quarters or supplies on their way, and he should, in case the Commune has a voluntary aid detachment, warn it to be ready to assist them.

If the actual fighting area approaches the Commune a roster of the Municipal Councillors should be made out, and one of them should be at the Mairie day and night. The Maire should advise the inhabitants to send the women, children, and old people in a direction which he will determine, requisitioning vehicles for the purpose if any remain, and announcing what signal he will give for a start to be made if necessary; but nothing should be taken in the convoy in the way of household goods, which will have to remain and take their chance. He should give whatever assistance he can to the Army Medical Staff in preparing temporary hospitals for the wounded, who may come in in large quantities and be unable to be transported immediately. If any able-bodied men are still left in the village he should instruct them what measures to take to extinguish the fires that may break out from shell bursts or otherwise, and that they should remain quietly in their houses.

It is customary for armies to look after the wounded as far as they can, but there may be cases in which the movements are so hurried that men are left on the field. In such a case the Maire should organize parties for the removal of these to shelter where they can be properly tended; and in any case in the immediate neighbourhood of villages assistance can be given even while fighting is in progress.

If dead are left on the battlefield after the troops move away, and if burial has not already been provided for by the troops or by requisition of working parties, the Maire should on his own initiative organize this service and take stringent precautions against any plunderers of the dead or wounded. If it is not convenient for the bodies to be brought to the legal burial-ground, they should be interred where they lie, either in single graves or in large common trenches. Each should be searched for his identity plate and his valuables, which should be carefully recorded, placed in a package, and preserved till they can be forwarded to higher authority. Arms, equipment, and ammunition should be collected, stored, and instructions demanded as to their disposal.

There were some other ways in which in 1870 the Maires were asked to co-operate. For instance, by sending in reports on the movements of hostile troops near them. These reports were to inform as to the numbers, the route followed, the times of arrival and departure, and every detail, however trifling, which might assume an importance when presented to military, even if not to mayoral, eyes. They were sent every day to the Sub-Préfet, who made from them a digest for higher authority.

In time of peace the law only demands of the Maire that he should attend to the lists of men, horses, and vehicles, and the estimate of the Commune's resources for billeting. But he is neither a wise nor a public-spirited man if he is content with doing his bare duty. Commonsense and patriotism both demand more of him. In fact he should be sure that in case of mobilization he has taken such preparatory steps, even to the making out of the notices which he may have to issue, as will enable him to carry out all his important functions without the confusion and delay that a belated start will be certain to entail.

Such are the duties of the Maire in France. Such, in fact, allowing for differences in the working of the machinery, are the duties of Local Authorities in any country, although it would be easy to discover others which might present themselves in war time for immediate action to already harassed officials.

Once again I will draw your attention to the manner in which in France the one authority, the Maire, is called upon in all circumstances to act as a shepherd to his flock, as advisor in all difficulties, so that they shall not transgress the law of their land, nor be wanting in inspiration to self-sacrifice and

courage, nor suffer grievous hardships that might have been avoided.

Even with these instructions to Maires the French are not satisfied. The Minister of War is at present engaged in the difficult task of providing for the feeding of Paris in war time by its Civil Authorities—the feeding during a siege is under the military—and is organizing an extra voluntary force of police and workers for the various areas in war time. It is an example of attention to detail which is worthy of being followed everywhere.

It is legitimate curiosity on the part of the Army to wonder whether our Local Authorities would be able to carry out their duties efficiently; for it seems as though they would labour under certain disadvantages. It is of the essence of our system that the areas should be really self-governing so long as they do not come into conflict with the law; and that they should rely on local voluntary service guided by professional advice from the various Central Departments: the Home Office, the Local Government Board, the Boards of Trade, Education, and Agriculture. The disadvantages for war purposes seem to be a liability for the various activities to overlap rather than to dovetail, and a possible difficulty in ensuring prompt obedience to measures initiated by the Central Government.

I was once told by an authority on the subject: "You cannot expect us to alter our system of Local Government merely for the sake of preparing for war." That seems rather uncompromising. There is no alteration of any sort whatever which should be shirked if it were obviously necessary for the safety of the country and the people. It is only States like San Marino which can afford to play such gambling pranks. But our own system is so valuable in making it possible to utilize the services of public-spirited men who would otherwise be without an outlet for their energies; it is so much an expression of our national character, to which the bureaucratic systems of France and Prussia are abhorrent, that no change could be contemplated. All that is needed is that the workers of the existing structure should know how it may be adapted to the requirements of war.

Our machinery for calling up the Army is entrusted to the police. Our new Remount Regulations make possible the classification of animals and their collection on mobilization; again through the medium of the police. Billets are arranged for in peace time and allotted on mobilization by the chief officers of police under the Standing Joint Committees; but whether what would be perhaps a not over difficult task on the first occasion, when everything was cut and dried, and officers also knew where their units were to go, would be as easily carried out on subsequent, perhaps sudden moves, is not so certain. The police would have a great many duties to perform; and if they were overburdened their work would suffer.

And is it quite clear as to how all the other matters that were mentioned earlier should be carried out, and by whom? Could the existing machinery provide for them in a satisfactory manner? Would there be too many cooks? Or should it be understood that in every area, rural as well as urban, a certain official should take charge and be generally responsible?

Sir Frederick Pollock says that in case of necessity a Mayor should take all measures, even if they were not strictly lawful. If an invader had landed in the north, for instance, and it was suspected that evil-disposed persons were attempting to land in Bristol among other places, it would be "the plain duty of the Lord Mayor, as a good citizen, to prevent suspected persons landing, or to arrest them if on shore; to assume control of railway traffic, to forbid undesirable passengers to proceed northwards, and to exercise strict censorship and inquisitorial powers over letters and telegrams." Even if Martial Law had not been proclaimed he must rely on being justified later under an Act of Indemnity; but to wait for orders and do nothing would be to neglect his duty as a good citizen. Professor Dicey seems horrified at the picture thus presented to him of "the fussy activity of a hundred mayors playing the part of public-spirited despots, and increasing tenfold the miseries and dangers imposed on the country by invasion." But the miseries he alludes to seem more like *inconveniences*. There might be far more miseries for the troops and inhabitants arising from ignorance, or lethargy, or fear of responsibility on the part of Mayors. And even the inconveniences might be largely avoided if only those officials knew exactly what they should and what they should not do.

Even in the case of an oversea campaign of importance there would be plenty of work to be done. Most of our people think that such an affair would be as an Austrian colonel in "Die Waffen Nieder" prematurely describes the campaign of 1866: a "splendid war and popular. No danger to our country and no harm to our people, as the theatre of war is abroad." But even then our Home Defence Army would be mobilized, and need billets, transport, and supplies; there would be commercial panic and unemployment; danger of riot; the necessity for guarding against undesirable foreigners and the loquacity of the Press; special sanitary precautions to be taken against human and animal disease; there would be the thousands, no! the millions, perhaps, reduced to starvation; while the families of those called up for service, and particularly of those who died, would need to be cared for; for even if they may be "fortunate to whom sorrow comes in so glorious a shape," the best means of affording them consolation is a prompt and timely relief of their bodily wants.

During any great war there is certain to be danger, in a densely populated country like Britain, arising from the miseries of the poorer classes, especially in manufacturing districts.

Panic prices of food, and the buying up of it by those who had the means, would quickly bring about an intolerable situation for those without money. The general catastrophic conditions might, perhaps, render strikes superfluous; and the idea of the general strike against a war does not seem to have a strong foothold here; but in any case, war-time is no time for well-meaning idiots or vitriolic cranks to be allowed to carry on a propaganda which might have the effect of neutralizing the success of our arms. Not only would it rest with our Local Authorities to prepare and take special measures to prevent riot, but it should be ensured by them that means are available for the relief of the poor, so that there may be no legitimate excuse for it. Empty stomachs recognize no Motherland; and patriotism requires a plinth of bread.

At the time of the Royal Commission on Food Supply in Time of War in 1905, a proposal was actually made to arrange a scheme for the organization of relief to meet the special distress during a war; but apparently the Commission was not impressed with the urgency of previous preparation, and the policy of hoping for the best had its way. But from petty arrangements for local relief, to the working out of a system of distributing food from ports of arrival to the distant parts of the country after communication had become difficult, all ought to be settled while there is time, and opportunity for thinking calmly.

Our people do not need to be told to sleep quietly in their beds. What Treitschke contemptuously calls our "mere indolent love of peace" sufficiently ensures that. Nor that they will rise as one man, for our people, after all, are likely to give vent on occasion to a violence of warlike sentiment unsurpassed by any. But they do need guidance in what to do in an orderly and business-like manner even if they do not shoulder a gun.

If there is any doubt as to whether our Local Authorities would be able to render proper assistance to the Army and to the inhabitants in the *next* war—not the one after next—and at the outset of war—not six months after—that doubt should be brushed aside by undelayed reform. For "the preliminary measures that the Municipal Authorities have taken, the assistance that they lend to the Army, either directly or indirectly, may facilitate, may even be the means of rendering possible the realization of a plan of campaign that has been skilfully prepared by the generals."

DISCUSSION.

Mr. Graham Wallas (London School of Economics): I unfortunately missed the reading of the first half of the paper, but the Lecturer has allowed me to read his paper in proof, and I come here largely because I admire it. It seems to me that Colonel Simpson has—unless, indeed, the Committee of Imperial Defence has done in secret a great deal of work we do not know of—pointed out a very real gap in our administrative preparations for war, and a gap which cannot possibly be filled by

hasty improvisation at the moment of war. If you leave it to each commander to choose what local authority he will communicate with, each will choose a different authority, and there will be inevitable confusion. In any war which is likely to concern us at home the Navy will be occupied as well as the Army, and it will be urgently necessary that any naval commander who enters into communication with the shore shall know which is the local authority to whom he can appeal. If he appeals to a different authority—of course his time will very often be measured by minutes rather than by hours—from that which is already in communication with the military authorities further confusion and weakness must necessarily follow. Therefore as an ordinary citizen of Great Britain I should like to throw out a suggestion, which might be enforced by persons of more authority than myself, that it would be wise either for the War Office or the Committee of Defence to appoint a small expert consultative committee to enquire into the whole of this subject and draw up a scheme. That scheme cannot be absolutely a simple one. If you draw up a simple regulation that the Mayor, or the Chairman of the County Council, or the chief of the police, or this or that authority, shall always be the person responsible, you will find it will break down owing to the difference of government in the different parts of the United Kingdom. A system which would apply to England would not apply to Scotland, where the organization is very often different, and it certainly would not apply to Ireland; and we cannot expect the enemy who is invading us to confine himself to those parts of the United Kingdom in which we have a completed arrangement for dealing with the matter. The Committee would have to go into some detail and draw up a rather complex scheme.

I do not want for a moment to prejudice what the work of a fully-informed and careful Committee might ultimately result in, but I believe they would possibly find it convenient to take as their unit the police-area. That would give you in the towns and boroughs a very well co-ordinated official body. The Mayor would act as the representative of the corporation; he is the official Chairman of the Watch Committee which controls the police, and he is in constant touch with all the officials of the town. He is in the Town Hall and has the whole expert staff under his direct control. I believe that the problem in an ordinary English town would thus be solved, though there would have to be considerable adaptation to meet cases of special difficulty.

In the administrative councils outside the towns the problem is very much more difficult. I do not think anyone would suggest that the vital interests of the country should be in the hands of the chairmen of the Parish Councils. I think the chairmen of the Rural District Councils, whose work consists chiefly of the administration of the Poor Law, would neither have the experience nor the expert staff that would be suitable for the duties advocated. My experience is that the chairmen of the Joint Committee of the Magistrates and of the County Council which controls the police would be found the most convenient authority; but that again would require very careful adjustment to meet the case of the smaller boroughs which have no police force of their own, and there are a number of other details which could be only worked out by very careful consideration.

I should like also to urge that which the Lecturer so well put before us, the proposal that beside the single authority you ought to have a Buffer Committee of experienced persons who should help him and bring into joint counsel a knowledge of local detail. That would be absolutely

invaluable. There would be on each local Buffer Committee, the Chairman of the District Council, the local head of the police and so on, and in some cases the Chairman of the Parish Council; they would be of the greatest possible assistance. The Lecturer also points out that in time of war the staff of the local administration would be very largely depleted. A large number of them, though possibly not so many as some of us would desire, would belong to the Territorial Army and would have been called out. The scheme I think would be well directed to secure that their places should be taken by volunteers, and I believe that these volunteer officials might well find a place, if you knew of them beforehand, and if they knew what they were going to do, on the Buffer Committee.

Very often a thoroughly able business man, forty or fifty years of age we will say, at the very top of his powers, feels that though he cannot march to the front, yet he would be willing to put the best of his powers to the service of his country, and such a man could go down day by day to work on the Buffer Committee, from copying letters, to dealing with important contracts. Because he is accustomed to think on a large scale he would be of great advantage. But you must know beforehand that he is willing to come; you must have his name and address and know that he is willing to come.

Finally, such a Committee might not only provide an invaluable organization for use in time of war, but might discover methods of greater, wider and more effective co-operation in time of peace between the local army authorities and the Local Government Authority.

Major Stewart Murray: I think we all owe a great debt of gratitude to the Lecturer for the very able and interesting address to which we have just listened. I should like to associate myself with every word which Mr. Graham Wallas has said. I think he put the case very well indeed. He said a great deal which I, more weakly, should like to have said and which I will not repeat.

I think this question which the Lecturer has raised to-day is most interesting in this way, that we have now had three lectures at this Institution on the question of the International Organization of this country for war. I myself gave one a fortnight ago in which I endeavoured to give a sort of summary of five matters, that is to say, the banking question, the trade-deflection question, the food-supply question, the commerce-protection question and the labour question. Mr. Gwynne, a fortnight before that, gave us a most interesting lecture on the question of the Press, how to keep people quiet in time of war and minimise panic by the influence of the Press. The present Lecturer has given us a most interesting, practical lecture on the duties of local authorities. I think those seven matters—the five I endeavoured to bring before you a fortnight ago, the question which Mr. Gwynne brought forward and the question which the present Lecturer has brought forward—practically cover the whole internal organization of this country for war, and I think all those three papers which we have tried to bring forward recently here should all be considered together, because they all work in together and they all form part of the same subject. I hope that they will be considered together and that whenever we approach the subject in future we shall always consider the whole lot as one.

The Lecturer spoke of the civilian side of war, about our countrymen not understanding what they have to do in the event of war, and he brought before us this very excellent handbook which they have got in France.

I must say I think it would be a splendid thing if we could get such a handbook issued by our own Government to the Local Authorities, something on the lines which Mr. Graham Wallas has spoken of, and I hope something of that kind will be the result of the lecture. Such a handbook would be invaluable if it could be issued, and it certainly could be done with very little trouble.

Then he spoke about the question of the war organization of Poor Law relief which was raised at the Royal Commission of 1903 on Food Supply in Time of War. That was a question on which I gave evidence myself, and I brought forward the scheme referred to, and I must say I feel very strongly on that. I said what I thought about it a fortnight ago, and I will not say it again, but I wish to emphasize the fact that unless something of the kind is done we shall have a most frightful difficulty in time of war, unless this internal organization question is tackled as the Lecturer has suggested to-day. Unless it is really tackled we shall have the most extraordinary difficulty, far greater than most people imagine, when the time comes, because the whole industrial situation of this country is so absolutely different from what it was in our previous wars. Every single thing has changed; every mortal thing in this country has changed since our Napoleonic struggles, and unless that fact is realized and taken into account and acted on by our Government, I am perfectly certain we shall have the most fearful—I will not say disaster, but the most fearful surprise in front of us when war comes.

It can be done, and it can be done quite easily and without any difficulty and without disturbance of the life of the community in any sort of way, without any expense and almost without any trouble; but for some unexplained reason which I cannot understand—and I have never yet found anybody to explain it to me—our Government will not take the trouble; they will not do anything in this way—not one single thing. Although in this Institution to my own knowledge in the last fifteen years, and certainly in the last ten years, every single person has been urging them to do it, so far we have not succeeded. There is only one thing to do, of course, and that is to stick to it, and I hope in this Institution we always shall stick to it till we get it done; and if we do get it done we shall render a service to our country. Of course, it is a tremendous lot of trouble and an awful nuisance to have to repeat the same things over and over again here, but we cannot do better than din them and din them and din them, and go on and go on and go on, and stick to it and stick to it and stick to it, even at the risk of irritating and boring people, until we do get it done.

I think we owe a great deal of gratitude to the lecturer, who comes and helps the thing forward by an idea like this of a handbook for Local Authorities. I will not say anything more, except to thank him once more for his very able lecture.

Colonel P. E. F. Hobbs: Those who, like myself, came here to learn as well as to listen will, I am sure, like to acknowledge the enormous amount of information they have got out of the Lecturer's paper. If there is one point which is made abundantly clear I think it is this, that every Maire in France has his mobilization orders cut and dried, and ready to be studied and acted upon. In this country I believe we have no organization which corresponds with the functions of the Maire, and I was going to ask the Lecturer, if there is time when he comments on the various remarks which have been made by the other speakers,

whether he would give us the benefit of his idea of an ideal system or the best system *we* could arrive at. In this country we have a Poor Law organization on the one side and, on the other side, we have our County Councils, our District Councils and so on, and in many Districts we have not even a Mayor, as the Lecturer is aware. I am quite certain that a small tradesman, who for the period of one year is glorified into the position of Chairman of the District Council, would never have that power over the inhabitants that a man with the full functions of Mayor in an Incorporated Borough would possess. Having attended a good many lectures here in this building, some of which have been devoted to subjects akin to that of this lecture, I always think when I go away that it would be so much more useful, time permitting, if the Lecturer in summing up would tell us what his idea of the essence of the remedy is, namely, whether he would attack the subject through the Poor Law in any direction, or through the County Councils, or by initiating some sort of serious responsibility on an individual who in England, Ireland, or Scotland would take the place which is usually associated with the Mayoralty.

Dr. T. Miller Maguire: Although I did not send up my card, after the appeal to gentlemen with some experience of civil administration, I would like to say a few words. I have not been a Mayor nor do I want to be, but I am a Freeman of the City of London, and I have been a member of the Kensington Vestry and a member of the Borough Council, and I know many of the gentlemen of that type in London; also, I was proposed as Churchwarden but was not elected! Under these circumstances I certainly ought to know something about the matter.

Now take, for example, the illustrious and Royal Borough of Kensington in which I happen to live. There is a Mayor, it is true, and a Borough Council, on which I sat for years, and various sub-committees. These contain a few volunteers, privates of the Inns of Court, lawyers and so on; three or four retired captains, none of them half so good as Major Murray, and a few retired colonels, who would be the first to acknowledge the merits of Colonel Simpson's lecture. These military men may be fit for any of the functions to which the Lecturer has referred, but the civilian members know nothing about it, good, bad or indifferent. You see—they have not been in the Army, whereas every healthy man of the ranks on the Continent would have passed the examination for captain at least.

Take London. The Lord Mayor of London and the Aldermen are splendid men; so are the Common Councillors, but they are, as a rule, really more ignorant than a foreigner could believe about the twin pillars of the State—the Navy and Army.

I suppose the Lecturer found, as we all do, that we cannot say everything of much value in the time allotted to us, but he certainly has said an enormous amount; this lecture is worth its weight in gold, and if the War Office cannot do anything itself let us subscribe and present two or three thousand copies of this in pamphlet form, if the Lecturer will allow, for distribution, till they can issue something of their own. Could anything be better than this? Here is a *précis* of civilian international law as it applies to any community inside the borders of that community, whether it proposes to invade another State or is itself invaded, and therefore it is invaluable that we ought to have it ready for circulation.

As a great banker said, and as Macaulay insisted, whatever other States may do in the way of preparing for war we of all others cannot

stand an invasion. It would shake our Credit, and that would be worse than the shock to the vicar and his wife as described in "Peter Plymly." Lloyd, the banker, said that by the mere threat of an invasion of our nation the loss of our Credit, let alone of our State, would cost us hundreds of millions. No other country is in that state. Moreover our poor folk would soon be a-hungred!

Now with regard to this subject, the night before last there was a speech in Caxton Hall by a Statesman who is also a lawyer. It was worth studying with the object of not paying the slightest attention to its lessons in case of war occurring. It was the speech of an ex-Secretary of War. He told us we were a wonderful people! He told us we were generally caught in a fix or in a tight place—why should we be caught in a fix or a tight place? He said we got out of it without much trouble!

We never get out of any fix or tight place without desperate trouble, according to history.

The position in France in 1870 is set forth by our excellent friend, Sir Lonsdale Hale, and if extracts from his work, "The Peoples' War," in addition to the admirable paper by the Lecturer, could be circulated they would be worth their weight in gold to every child in every school. Why should this knowledge not be taught? If history, including the worst effects of the German invasion, is taught in France, why should we not be taught some possibilities thereof.

In France they are preparing for the investment of Paris; they know what an investment means. Mr. Labouchere told me he paid four dollars for the hind quarters of a rat in Paris. That is something to contemplate.

We have had a beautiful novel and a play published and enacted in England in which the invader collapses and everything goes as pleasantly as possible. But listen to this: "Military jurisdiction is established by decree"—that was, fourteen days after the French were shouting and bawling *à Berlin*, military jurisdiction was established by decree in Alsace-Lorraine. Then it says that after the territory is occupied by the German troops it is unlawful for any persons to interfere who do not form part of the French Army.

I would advise everyone at once to join some sort of force, because if there were an invasion of Australia or anywhere else, once the enemy crossed the frontier if a man joined the force he would be liable to be shot dead. You do not get six months' notice. At any rate this is what these orders said on August 4th, 1870: "If you hurt a German; if you destroy a bridge; if you damage a railway; you will be shot"—all punishments are death and the sentences are executed immediately.

I could go on for a long time but I see my time is up and, besides, we talk a great deal too much. It is nearly time to act.

Now, how are you to feed these invading folk? If you do not supply them with food, if you are a Mayor or a Common Councillor or an Alderman or a citizen of London, you would be shot. Therefore I would be very glad to give them all the bread and butter and marmalade or anything else I happened to have.

Each soldier is to get 750 grammes of bread a day, 500 grammes of meat, 25 grammes of lard, 30 grammes of coffee—which is more than I have in a week—60 grammes of tobacco—some of us never smoke at all—and he is to get five cigars. He is to have half a litre of wine—nearly a pint! Our own private soldiers only get 2d. for half a pint of beer! He is to have a litre of beer and in addition, mark you, one-tenth of a pint of brandy. I do not know how much that is. If a private soldier

gets that, what would an officer like the Lecturer get? Then every horse, ass or mule, gets six kilogrammes of oats and plenty of straw to lie upon, which is more than half the people in the slums of England would have if there was an invasion.

My advice is, circulate the lecture, listen to the soldier, do not despise any lawyer as such but entertain the utmost possible contempt for men who go about humbugging and deluding by baseless optimism, *sittlichkeit*, or any other form of stupefying metaphysics!

Colonel Hyslop: I think that the paper we have heard is a most valuable contribution, particularly for those who are interested in and have studied organization and administration. We must take notice of it. My immediate object in rising is to fill in one little gap. No allusion has been made to the Territorial Associations. I think that they might be considered in this connection. They are constituted as follows:—The Lord Lieutenant of the County is the President; a certain proportion are military members, a certain proportion are representative members, that is of the County Council or the Corporation or other Local Authority, and another certain proportion are co-opted, men who are representative of the chief interests in the districts.

I had the advantage of sitting at the feet of Mr. Graham Wallas at the London School of Economics, and when authority came to us to organize the National Reserve we recognized the value of this Territorial principle, and in organizing we created Borough Committees on the same lines in each of the London Boroughs. The Mayor is the Chairman, and there are certain representatives from the Borough Council, certain military representatives, and certain co-opted representatives, and I think in almost every case the whole of the administration is carried out from the Municipal Offices, in many cases with the assistance of the Municipal staff and clerks.

That seems to be the germ of a very useful organization, which could usefully co-operate and assist the Municipal Authorities in case of warfare in this country. I think also that it is a form of organization which could be readily extended to small areas, such as urban and rural district areas.

Mr. James Roberts: What we suffer from in this country is apathy, which is due to ignorance. I do not use that term in an invidious sense. There are thousands of people like myself throughout the country, who do not realize the position they will be in on the outbreak of war. The cause of that has been pointed out by Lord Wolseley incidentally in that memorandum of his, published about 30 years ago, on the Channel Tunnel, namely, that we have been so far immune from invasion that we do not realize what we owe to "the silver streak." That condition of affairs may not long continue, and therefore it is incumbent upon all thinking people to do all they can to arouse an interest in this matter and to promote the carrying out of the suggestions we have heard to-day.

The Lecturer has alluded to overlapping. There is far too much of it in our local affairs at present. For instance, in the Metropolitan district, stopping places for tram cars are subject to three different authorities, and the licensing of public vehicles to two: the Police and County Councils. The Police at present have the duty cast upon them of finding out who can provide billets, and keeping the records in peace time of carriages and horses. They ought to be relieved of those duties as much as possible, because in time of war there would be apprehension of riots and disturbance at home for which the police are scarcely adequate. No body of men

ought to be used in this connection by the Local Authority who already have other duties to do. There is a good deal of voluntary assistance to be had. There are numbers of men, who are past the military age and who cannot fight, who could take a very active part in disseminating information and in carrying out what the local authorities desire.

We should leave as little as possible to the military authorities in connection with these auxiliary arrangements for war, because otherwise soldiers would be "locked up," and so taken away from their proper business.

A couple of years ago we were in danger because we were nearly having our whole expeditionary force "locked up" in guarding railways. That is an instance of what I mean.

There is another principle we ought to bear in mind, and that is the instruction, whether it is by a handbook or otherwise, must be arranged and carried out entirely in time of peace. The committees must be formed in time of peace; the Local Authorities must know their duties in time of peace, and as far as possible the public must be instructed on this subject in time of peace, because the moment war breaks out any Local Authority may be isolated—not necessarily by the invader—but by an outbreak at home of either strikers or Socialists. They should each be able to rely upon themselves. I join with others in thanking the lecturer for having given us a very interesting lecture to-day.

Lieut.-Colonel Inglis: I must thank the Lecturer for a most interesting lecture, which gives one to think of a great many things one does not bother about otherwise. You must work through some authority already existing and it seems to me that the Chief Constable working under the Standing Committee of the county is on the whole the only authority which you could rely upon to find everywhere in existence—it is practically the only authority which is universal throughout the British Isles—and you would have to work through that. It would be so much overworked, especially the police portion, that voluntary assistance would be absolutely essential, and such voluntary assistance, as everybody has urged, must be organized beforehand to supplement it.

I always think it is a pity that our military authorities do work so little through the civil authorities and that they work so entirely by themselves. It is a pity that recruiting, and many other departments, are quite watertight from anything to do with the civil authorities. Also, as the result of no compulsory service, while in France and Germany everybody has at least two years' experience of what a soldier has to do, the average Englishman, who has not done regular service or served in the Territorials, really has no idea of the requirements of troops in any way. It is a pity that that should be so, and I hope it will be altered before long.

Colonel W. G. Simpson, in reply, said: I think on the whole I have not very much to reply to, in the way of objections at any rate. The most difficult thing that I have been asked to do is to propose an ideal system. When I thought over the paper first of all I thought that it would be better to propose some system for the country, but it did not take me very long before I saw it was not a one-man job—that it was, as I have said in the paper, a job only to be undertaken by military experts and local government experts in co-operation.

As far as they go I am in complete agreement with Mr. Graham Wallas' valuable suggestions.

I was glad to get my words corroborated by Mr. Roberts, about the police being overworked, and about the duties of different authorities overlapping. I think the police could not take on all that they are expected to do at present, and that there must be other workers already organized in peace time.

On the whole, there is no doubt that there is great ignorance in the country on this question, and that that is most unwise. Even amongst the Local Authorities themselves there is very little known. For instance, not long ago I asked a professional man, who shortly before had been a Mayor, what he would do under these circumstances. I said "Supposing you were the Mayor of a country town, and a foreign officer with an escort rode into your town and said, 'I want billets in three hours' time for 6,000 men; I want 20 beasts in the Market Place and 10,000 lbs. of flour or bread,' and so on." He answered, "I should tell him to go and get it himself." "But," I said, "according to the experience of the Franco-Prussian War, you would run the risk of getting flogged or shot, or at any rate sent to prison." He was quite sturdy about it and said, "Well, a man can die but once." I said "That is all very fine, to give way to a debauch of martyrdom like that, but you would be deserting your post in an unmayoral manner, and deserting the people who are in your charge. When the officers and soldiers come in you ought to be there to deal with them. They will have everything of the best and if they are irritated they will be very unpleasant about getting it too." He quite saw the point. He had never looked at it from that point of view before. At any rate it is most important, that whatever we do we should start doing it now, and not wait. And the great thing is, as Major Murray said, it is not going to cost a lot. If we go on as we are and war broke out, there would be terrible friction and misery throughout the country, which could have been saved with very little trouble.

The Chairman: Ladies and gentlemen, we have had a most interesting discussion, and I do not propose to detain you much longer by any remarks from the Chair. I think you will all agree with me that the Lecturer, in default of being able to draw your attention to the horrors of warfare in this country, has drawn a very vivid picture of what might happen in the neighbouring country of France. I think, as he read his lecture, we realized what would happen to the civil population of any country and what hardships they would have to undergo, and we also realized what very sensible and practical measures they have taken in France to meet those trials.

I take it as a sign of great progress in our own national life that we have had such a lecture delivered here to-day. It is only of comparatively recent years that a detailed scheme of mobilization for our Army has existed in this country. We hope and believe that this scheme has reached such a state of perfection that on the order "Mobilize" everything would go on in a most excellent and machine-like manner.

I think the next step, as a corollary of these mobilization arrangements being fairly perfect, is to consider, as we have done this afternoon, and as was considered in the lecture delivered by my friend, Major Stewart Murray, a fortnight ago, what would happen to the civil population in time of war, and I have every reason to think that any scheme, or any public attention that is drawn to this most urgent and important subject, will be favourably received by the military authorities. It has been emphasized here that there is nothing of the sort at present, but

in our Colonies where Defence Acts exist, part of the defence scheme includes a chapter detailing certain duties for the civil power, and that is what I think we want here.

An allusion was made by Major Stewart Murray, I think, to the issue of a handbook. But surely that would come after some scheme had been formulated. I understand the handbook the Lecturer has quoted, which is used in France, is a sort of book of instructions to Maires.

Colonel Simpson: That I have not been able to be sure of. It seems to be so.

The Chairman: Such instructions would come, of course, when we had a system formulated.

Colonel Hyslop alluded to the part which the Territorial Force Associations would take in such a scheme. I have been connected with various Associations when I commanded Divisions of the Territorial Forces, and I can say that in the last few years an enormous rapprochement has grown up between the military and civil population in that respect. The civilian members of the Association take an enormous interest now in military matters, and I think, to come to a more recent date, the manner in which the National Reserve has been started by means of the Borough Corporations and District and Urban Councils is bringing a great many more civilian bodies into close touch with the Army.

I wish to thank Mr. Graham Wallas for his presence here to-day, and for giving us most excellent, practical and definite proposals, which we can record in our JOURNAL, and which we hope will be taken notice of by the higher authorities.

It now only remains for me to thank the Lecturer on your behalf for his most interesting lecture, which has provoked an equally interesting discussion.

THE STRATEGIC ASPECT OF THE PANAMA CANAL.

By VAUGHAN CORNISH, D.SC., F.R.G.S.

On Wednesday, November 19th, 1913.

RT. HON. SIR GEORGE TAUBMAN GOLDIE, P.C., K.C.M.G., in the
Chair.

THE CHAIRMAN: Ladies and gentlemen, I have the honour to take the Chair here this afternoon, but I have a very small part to play. It consists of introducing to you my friend, Dr. Vaughan Cornish, whom I have known for a number of years, and whom I know to be specially qualified to speak on the subject before us. He is an eminent geographer, and I need hardly tell the present audience the intimate connection there is between geography and war. It has often been said that we owe a vast amount of our geographical knowledge to wars and, on the other hand, great generals have owed much to their geographical knowledge. The three greatest warriors of history, Alexander, Cæsar and Napoleon, were all expert geographers. They knew their way about a country; they knew where to go and what they would find when they got there. The Lecturer of to-day has given a great deal of attention to his subject; he has studied the Panama region for a good many years, and I feel sure that you will have a very interesting lecture from him. I will now call on Dr. Vaughan Cornish to begin.

LECTURE.

INTRODUCTION.

IT was in January, 1907, that I first saw the Panama Canal works, and, realizing that the Americans were likely to carry the undertaking to a successful issue, I decided to become a critic and chronicler of the undertaking. I paid visits to the Isthmus in 1908, 1910, and 1912, and through the kindness of the Department of State in Washington, have been afforded facilities for study on the spot, as well as being supplied with the official publications.

In the present paper I describe the completed Canal, the measures which are being taken for its defence, and its future use as a line of communication.

THE CANAL.

The Republic of Panama is about the size of Scotland. Its independence is guaranteed by the Government of the United States, which has assumed all responsibility for its military defence. The country is sparsely inhabited, and a large part of it is covered with dense forests, which stretch far beyond its borders. There is no record of these forests being traversed from end to end by an army. They facilitated the revolt of Panama from Colombia. It is owing to them that the Isthmus has always been a barrier, not a bridge, between the Continents of North and South America.

The Canal Zone, a strip of territory extending five miles on each side of the Canal, is in the absolute ownership of the Government of the United States, and has recently been made a military reservation, all private owners being bought out.

The cities of Colon and Panama are not included in the Zone.

The Zone extends three miles out to sea.

The date fixed for the official opening of the Canal is January 1st, 1915.

It is uncertain how long landslides will continue in the Culebra Cut, but as the solid rock has been excavated to its full depth, no additional stress will be thrown upon the sides. From what I saw of the landslides in 1910 and 1912 I think that they will gradually diminish in number and size, and that, even if they do not cease, the dredgers will, after a time, be able to maintain the full width and depth of the waterway.

The Bay of Limon has been partially enclosed by a solid breakwater extending two miles from Toro Point on the west side, and a second breakwater is to be carried out from Coco Solo Point on the east side.

The Canal channel commences inside the Toro Point breakwater, where the depth of water at mean tide was 40 feet, but the entrance has now silted up to 27 feet and will have to be dredged. The channel is continued through three miles of low swampy ground to Gatun. Here is a duplicate flight of three locks, by which vessels will be raised 85 feet to the surface of the high-level part of the Canal. The depth over the sills of the locks in the Canal is in no case less than 40 feet for the bottom locks, where the water is salt, and 41 feet 9 inches for the top locks, where the vessels float in fresh water. The width of the locks is 110 feet, and their usable length 1,000 feet, so that they will accommodate the broadest battleships yet built, as well as the longest of the great liners which may be required as

transports. It is reckoned that ships will be able to follow one another at intervals of one hour, so that, as there are two parallel flights of locks, 48 ships could be put through them in 24 hours. The time of passage from ocean to ocean is reckoned to be 12 hours. The whole of the Canal will be well lighted for night work. For 23 miles after passing the Gatun locks vessels will be able to steam at a fair speed along the buoyed channel through Lake Gatun. They will then enter the eight miles of cutting, the celebrated Culebra Cut. This is the narrowest part of the Canal, but even here the bottom width will be in no place less than 300 feet in the straight parts, and more at the turns. The bottom width originally planned was 200 feet, but this was altered to 300 in 1908 in order that two vessels might be able to pass each other without the necessity for mooring one of them. The bottom of the cut is 40 feet above sea level. The gates of the spillway which regulates the flow of the Chagres River through an opening to the Gatun dam, permit a water level of 87 feet to be maintained, and this will be the level at the end of the wet season. It is intended that the level should never fall below 81 feet. The area of Lake Gatun is 164 square miles, and it is calculated that the amount of water above the 81-foot level, together with the amount which the Chagres supplies in the dry season, is more than sufficient for the waste of lockages, and for all other requirements. Thus the depth of fresh water in the Culebra Cut will not fall below 41 feet, which is equivalent to about 40 feet in salt water.

At the southern end of the Culebra Cut a duplicate single-flight lock at Pedro Miguel will lower vessels to the level of the small Miraflores Lake, at the southern end of which the double flight of the Miraflores locks will lower vessels to the tidal channel, which extends thence through the swamps and out into Panama Bay to a point where the depth at mean tide is 45 feet. The range of tide on the Atlantic side is about two feet; on the Pacific about 20 feet. The total length of the dredged channel from deep water in Limon Bay to deep water in the Bay of Panama is fifty and a half miles, and from shore to shore forty miles.

At the Pacific entrance a breakwater two miles long which connects the Mainland with the fortified Naos Island protects the Canal against a current which would silt up the channel, and this causeway is continued to the other fortified islands of Perico and Flamenco. Extensive wharf and warehouse accommodation is being provided both at Colon and Balboa.

The Defences of the Canal.

Particulars of the measures being taken for the local defence of the Isthmus have been published in a Congressional document, "Hearings concerning estimates for fortifications of the Panama Canal, for the fiscal year, 1914." The evidence was taken in Washington, January, 1913, and the particulars of men and guns are extracted from this document.

In order to defend the Isthmus against an attacking army Colonel Goethals, Chairman of the Isthmian Canal Commission, considers a force of 20,000 to 25,000 men to be required. This, he says, with proper defences around the locks, would enable the Canal to offer as good a resistance as that of Port Arthur.

The establishment of the United States Army does not, however, admit of maintaining a peace garrison on the Isthmus of this size, and the troops who are to be placed there permanently will consist of a mobile force of about 7,000 men in addition to 1,300 men of the coast artillery manning the forts at each entrance. The coast forts, and certain field works, not yet fully planned, with their garrisons are designed to resist attack by the ships of a fleet and by sailors and marines landed from them.

In the event of the United States Navy being crippled, it is assumed that one or other ocean will still be available for sending down the much larger body of troops which would be required to defend the Isthmus in the case of an enemy being able to bring an army in transports. Colonel Goethals records his doubts as to the possibility of the Government under such circumstances despatching the necessary reinforcements on account of the popular pressure which would be brought to bear to get those troops for defence of coast towns in the States. In any case, however, he would have defences erected in the neighbourhood of the locks which, if properly manned, would necessitate regular siege operations. The defences which have been authorized are, however, upon a much smaller scale.

The armament of the coast forts will be as follows :—

One 16-inch gun having a range of 20,000 yards.

Ten 14-inch guns having a range of 18,500 yards mounted on disappearing carriages.

Twenty-eight 12-inch mortars with a range of 20,000 yards. These will also fire shrapnel, and can be used, *e.g.*, from the Pacific Island forts against troops approaching the Miraflores locks.

Twelve 6-inch guns having a range of 6,000 yards mounted on disappearing carriages.

Thirty-two 4.7-inch howitzers, 16 for the protection of the coast batteries on the land side and 16 for the field defences in the neighbourhood of the locks.

The garrison of the forts will be 12 companies of coast artillery, 109 men in each, or a total of 1,308.

The field force for which permanent barracks are being planned will consist of four regiments of infantry, each of 1,800 men, or a total of 7,200 men, one battalion of mountain artillery, one squadron of cavalry, one company of engineers, one company of signallers, and one ambulance company. They have to guard the locks at both ends of the high-level part of the Canal. The distance by the Panama railroad from Gatun

station to Miraflores station is 36 miles. The site for the barracks is under consideration. Culebra is cool and fairly central, but Miraflores is better placed for crossing the Canal—a very important consideration. In addition to the railway there are some good macadam roads, and vessels on Lake Gatun will, of course, be available for the transport of troops.

At the Pacific entrance of the Canal the defences are as follows:—

On the mainland at Balboa, Fort Amador, consisting of two batteries which are armed with 6-inch guns, having a range of 6,000 yards and mounted on disappearing carriages. The number of the guns is, I think, four.

The three islands of Naos, Perico, and Flamenco have been united by a causeway, and Naos is joined to the mainland by a causeway or breakwater two miles long, on which I presume a railroad will be laid connecting with the Panama Railroad. The defences on this island triplet are known as Fort Grant and consist of six batteries. The armament will comprise one 16-inch gun, with a range of 20,000 yards, which is placed on Flamenco, the outermost island, twelve 12-inch mortars, six 14-inch guns, and two 6-inch guns. There are also eight 4.7-inch howitzers for firing shorewards.

Twelve thousand yards south, and seawards, from the island triplet of Fort Grant lies the island of Taboga, which is not only much larger, being two and a half miles long, but much higher, rising to an altitude of 935 feet. Being six statute miles from the coast it could not be joined to the mainland by a causeway. This island has been left unfortified, an omission which General Weaver, U.S.A., defended on the following grounds in evidence before the Committee on Appropriations. He said that the mortars of Fort Grant will have under fire the whole of Taboga island and the water for 8,000 yards beyond, and that it was not to be feared therefore that an enemy's ship could lie sheltered behind the island, or that an enemy would be able to mount guns on it.

Ships, however, though not out of range would be out of sight, and there is the further consideration that if the Americans had guns on Taboga they could protect their fleet when issuing from the Canal for about seven miles beyond the reach of the guns on Flamenco. The latter island is, moreover, slightly behind the entrance to the Canal channel.

The locks nearest to the Pacific are those at Miraflores. Their distance from Flamenco is seven and a half statute miles. They are not visible from the decks of ships at sea and are sheltered by the close proximity of a hill to the south.

The Pacific coast is hilly, but that at the Atlantic entrance is low-lying, and there are no islands except tracts of mangrove swamp which are scarcely detached from the shore. Such is Margarita Island on which is situated Fort Randolph, one of the two principal forts defending this entrance. The other

is Fort Sherman, on the slight eminence of Toro Point on the opposite, western, side of the entrance. Fort Randolph comprises three batteries armed with eight 12-inch mortars, two 14-inch guns, two 6-inch guns, and eight 4.7-inch howitzers. Fort Sherman, comprising four batteries, has the same armament. Both forts are connected by rail with the Panama Railroad. In addition to these principal forts there is at Manzanillo Point, Colon, on the Mainland, Fort de Lesseps, consisting of one battery armed with two 6-inch guns.

The distance from Toro Point to Margharita Island is two and a quarter statute miles. The line joining Toro Point and Margharita Island is in front of the entrance to the Canal. There is also a mine field within the line of the principal forts both at the Atlantic and Pacific entrances, and the absence of fogs diminishes the chances of a ship, except a submarine, passing the forts unobserved.

Submarines will be stationed at the entrances.

The locks at Gatun are visible from the deck of a ship at sea. Their distance from the seaward end of Toro Point breakwater is seven miles. In that part of the Canal which is excavated through low-lying ground between the shore and the locks, there is a bend which would prevent, *e.g.*, the straight discharge of an unguided torpedo against the gates, except from their close vicinity.

Colonel Goethals states that in order to disable a lock by dynamite the charge must be placed in a certain position behind the gate, and that the requisite charge is more than one man can carry.

As there are two parallel flights of locks one gate in each flight must be wrecked in order to interrupt the working of the Canal during the time required for the execution of repairs by a numerous and skilled staff.

The way to put the Canal out of use for a long period is to let the water out, and I therefore regard the Chagres spillway in the centre of the Gatun Dam as an important object of attack. In order to thoroughly break up the concrete wall by explosives a large party of men would probably have to be in possession for about two days, but if once it were thoroughly broken up the rush of water from the lake, with a "head" of nearly 85 feet, would be such that it would be very difficult to stop it.

How long it would be before the lake was again full would depend upon whether the damage was done in the wet or the dry season, but it might be many months. The discharge through the spillway in the year 1910 was one and a half times the amount of water required to fill Lake Gatun and the Canal to the 85-foot level, *i.e.*, the requisite amount of water was supplied by the river in eight months.

By an executive order of the President, dated December 5th, 1912, authorized by an Act of Congress, dated August 24th,

1912, the Canal Zone, *i.e.*, all the country for five miles on either side of the Canal is made a military reservation. Much of it is under the waters of Lake Gatun, and settlement will not be allowed in the remaining area. The effect of this is expected to be that the riotous vegetation of this humid, tropical district will soon block the old paths and tracks, and that creepers and other thick undergrowth will form an entanglement through which it will be impossible for a body of men to pass until each foot of the way has been cleared with the hatchet.

As a result of the mosquito campaign, screened dwellings, cold storage, and a good water supply, the death rate among the employees on the Zone has only been 11 per thousand during the last four years, as against 63 per thousand during the French occupation, when the rôle of the mosquito was unknown. Taking the number of the garrison, the marines and the operating force of the Canal and railroad at 12,000 men, the deaths per annum would be 132 at the present rate as compared with 756 under the old conditions, a saving of 624 lives per annum. But for the discovery of the origin of malaria and yellow fever the United States would not have been able to maintain a large garrison of white troops on the Isthmus. The healthy area does not, however, extend far, and hostile troops camping at night in the surrounding forests would probably be attacked by fever.

The following particulars relate to the action of the Navy Department in the Zone:—

In the matter of wireless telegraphy the military reservation has been extended to include the whole State of Panama, in which no wireless stations will be allowed except those of the United States Government. The Navy Department are erecting a high-power station at Caimito, about half-way across the Isthmus. A 100-kilowatt plant is being installed, of the same power as that at Arlington, near Washington. The base is 180 feet above sea level. There will be three masts each 600 feet high arranged in a triangle of 900 feet side. It is expected that the sending and receiving distance will be 3,000 miles, and that messages will be sent, not only to Arlington, but as far as San Francisco, Buenos Ayres, Valdivia—420 miles south of Valparaiso—and St. Vincent in the Cape Verde Islands.¹

At Balboa, the new port at the Pacific entrance, a dry dock is being constructed in a situation protected on the seaward side by the steep Sosa Hill. Its dimensions are the same as those of the locks. Repair shops are being erected near by.

The Navy Department requires that the stock of coal on the Isthmus shall never be less than 100,000 tons at the Atlantic, and 50,000 tons at the Pacific terminus. The actual stock will generally be much greater, in order to meet the requirements of merchant vessels using the Canal. A storage basin of reinforced concrete is being constructed at Christobal, near Colon, with a

¹ See the *Canal Record*, July 30th, 1913.

capacity of 290,000 tons, and another at Balboa with a capacity of 160,000 tons.

Two large oil tanks will also be installed at each end of the Canal for supplying fuel oil to ships, and the United States Government will lay an oil pipe line across the Isthmus.

The present extensive cold storage plant will be retained, and provisions will be supplied to the ships using the Canal. Thus there will always be a large supply of food on the Zone available for victualling the garrison.

Barracks are to be provided for a force of marines variously stated at 500 or 1,200 men. They will not form part of the garrison of the Canal, but are "for naval uses in any part of Central or South America as may become necessary."¹

The Strategic Purpose of the Canal.

The circumstances of the Pacific Coast States are such that naval power cannot be based upon them, but must be derived from the ports of the Atlantic States, which are contiguous to the manufacturing districts.

The strategic purpose of the Panama Canal is to enable the United States to reinforce her fleet in the Pacific by a route more than 8,000 miles shorter than that by the Straits of Magellan, and to be able to recall it to the Atlantic with an equal saving of distance. As the Canal is fortified and under their own control, this short route is not available for a hostile Power.

The uses of the fleet in the Pacific are as follows:—

1. To defend California, Oregon, Washington, and Alaska from a Japanese invasion.
2. To defend the Philippines.
3. To ensure the United States a voice in matters relating to the future of China.
4. To support the Monroe policy on the Pacific coast of Latin America, from Mexico to Chile inclusive.

The distance from New York to San Francisco via the Straits of Magellan is 13,700 miles, which is slightly greater than that from St. Petersburg to Vladivostock via the Suez Canal. The distance by way of Panama will be 5,300 miles. The position of the United States on the Pacific Slope will, moreover, be strengthened in an indirect way. The tide of emigration from Europe will be deflected so that the number of emigrants who will reach the Pacific Slope will be greatly increased. Many of those who would, under present conditions, never get further than the great cities of the Eastern States will now take a through booking to San Francisco. The Yellow difficulty in the White countries of the Pacific is to a great extent the difficulty of maintaining a vacuum, and the use of the Canal will help to fill up the empty places in North America.

¹ Mr. Stimson, Secretary for War, "Hearings," p. 265.

THE PANAMA CANAL AND THE MONROE DOCTRINE.

Panama is situated less favourably than ports north of it for trans-Pacific voyages, but it has almost precise centrality as regards all four coasts of the two Americas, and it lies at exactly the right point for the intersection of the four crossing sea-roads.

In latitude it lies about half-way between the north of Alaska and Cape Horn, and about half-way between Vancouver and Valparaiso.

Its position in longitude is the most favourable for direct communication between the East coast of North America and the West coast of South America, for it lies on the same meridian as Guayaquil and is about midway between those of New Orleans and Boston.

Thus its situation is singularly good for the strategic requirements of the United States on the coast of the Caribbean Sea and on the Pacific coast of Central America. These requirements depend upon the relations of the United States with certain countries of Latin America, which includes Mexico and Cuba on the north, the Argentine and Chile on the south, and all the republics which lie between. Their political and industrial development lagged so far behind that of the United States that they were a danger to that country, as some of them in a lesser degree still are. The neighbourhood of small States, if highly civilized and efficiently governed is advantageous to a great Power: they are, indeed, the best neighbours for her. But the neighbourhood of weak States which cannot manage their own affairs is not only troublesome but dangerous.

The citizens of civilized nations go there to conduct business in accordance with civilized usage, their contracts are repudiated and their persons endangered; they appeal to their government for support, and interference on the part of some distant Power may be thus brought about at any time. But if another great Power become a neighbour national security is diminished, and armaments must be immediately increased. Moreover, the history of Rome, of British India, and of Russian Asia illustrate the general fact that, even apart from this danger, a great Power sooner or later takes over the affairs of weaker neighbours who are unable to govern themselves. The Monroe "Doctrine," which has long been a fixed national policy of the United States, aims at saving that country from the inconvenience of having as neighbour a powerful military State. In this, its legitimate form, it is a sound and statesmanlike policy.

There are, however, Chauvinists in the United States who would give effect to the Monroe Doctrine by embarking upon a career of conquest, and it is beyond dispute that the dread of this course is widespread in Latin America. As long as the armaments of the Old World continue to neutralize each other, the Government of the United States can interpose at their pleasure in the affairs of the Latin States.

We do not know what men may hold the reins of government in the United States in years to come, and do not, therefore, know what they may wish to do, but there is a course which history shows they will probably have to follow whether they wish it or not. They will have to govern those neighbours who continue to prove themselves unable to govern themselves.

Already the United States exerts domination without exercising government over some small parts of Latin America. How far, geographically, the process will extend depends chiefly upon the rapidity which the Latin States learn to manage their own affairs. South America is hardening up from the south; meanwhile the Panama Canal lies in the centre of inefficiency both on the Caribbean and Pacific coasts, east and west, north and south, and the presence there of a permanent and well-equipped advance base both for the Navy and Army is a great strategic advantage in carrying out the consequences of the Monroe Doctrine. In the relation between great Powers and their weaker neighbours modern strategy acts mainly by the pressure of neighbouring armaments during time of peace, this pressure being generally sufficient without resorting to the blows of war. For the exercise of such pressure nothing could be better than the presence of land and sea forces at Panama, as soon as the Isthmus is divided,

But in dealing with more formidable States it is necessary to consider the defensibility of the Canal as well as the conveniences which it affords police work. And here I may point out that the Monroe policy has now to be maintained not only against Europe but against Japan, and may have to be maintained against China also. The influx of Japanese labour into Mexico, Peru and other Latin States entails relationships between the Japanese Government and those countries, which are a source of popular anxiety in the United States.

EFFECT OF THE CANAL IN A WAR BETWEEN THE UNITED STATES AND JAPAN.

It is the policy of the United States to have a voice in all that relates to the future of China, and this requires the maintenance of a strong fleet in the western (*i.e.*, Asiatic) part of the Pacific.

This is only one of several matters in which her policy may at any time bring her into conflict with Japan, in which case she must be prepared at the outbreak of war to engage the Japanese Fleet, either in Japanese waters or in defence of the Philippines. If the American Fleet were worsted in this action the defence of the Pacific States would have to be considered, and throughout the war the Panama Canal would have to be defended, and free exit secured from the Gulf of Panama.

The distance of Manila from New York via the Suez Canal is practically the same as that via the Panama Canal, so that commercially the Panama route offers no advantage. This

circumstance tends to disguise the enormous advantage which the Canal provides for the naval reinforcement of Manila, or of a fleet in Chinese waters. At present Manila can be reinforced from the naval station of Honolulu, distant 5,400 miles, but the defect of the present line of communication is the enormous distance from which Honolulu has to be reinforced—13,300 miles from New York, via the Straits of Magellan. The Canal reduces that distance to 6,700 miles, but even this is not the whole benefit, for Balboa, at the Pacific entrance of the Canal is an advanced naval station with dry dock, repair shops, coal, fuel oil, and a barracks for marines. This is distant only 4,700 miles from Honolulu and 2,000 from New York. Thus after the opening of the Canal there will be no interval between stations of more than 5,400 miles (with the coaling station of Guam on the way), whereas at present there is one interval of 13,000 miles.

It is reckoned that ships will be able to follow each other through the locks at intervals of one hour, so that on the eve of war when everything is going westward, 48 ships could pass into the Pacific every day, there being two parallel flights of locks. During the war there will be two streams of vessels, transports, colliers, etc., going and returning all the time, and then 24 ships will be able to pass into the Pacific, and 24 return to the Atlantic, every day, for (when the landslides have ceased so that the full width can be maintained in the Culebra Cut) ships can pass each other without being tied up.

A large mercantile marine will therefore be required by the United States from the commencement of the war, and there will especially be need of the largest and fastest ships. But at present, and for a long time past, the trade between America and foreign ports has been almost entirely carried by vessels flying foreign flags. When war breaks out these ships will not be available as transports, etc., and the United States will have to depend upon the American shipping now engaged in coastwise trade, with, possibly, assistance from some of the vessels now plying on the Great Lakes.

The want of ships of the class of the large and fast vessels of the Cunard and Hamburg-America lines will be a great disadvantage. Yet the more carefully one examines the conditions governing the shipping of the United States, the more difficult does it seem for the country to remedy this state of things. It is far cheaper for American business men to have their goods carried in foreign bottoms, and the increased national security which is given by a large merchant marine can only be had now by a great financial sacrifice on the part of the nation. Even if the nation be willing to make the sacrifice it is by no means certain that legislation adequate to secure the desired result could be immediately devised.

Yet if war is to be carried on against a first-rate Asiatic Power, the United States must obtain ships suitable for transport and supply.

The entrance to the Gulf of Panama is only about 100 nautical miles across, and the Pearl Islands are an ideal base for blocking entrance and exit. They have an area of 450 square miles; have a good water supply, and several well-sheltered deep-water anchorages. From one of them, St. José, a circle of 65 nautical miles radius includes both entrances to the Gulf, Panama itself, and almost the whole of the coasts of the Gulf. At the same time these islands are far beyond gunshot from Fort Grant.

Thus it would seem necessary to retain some ships of war in the neighbourhood, as otherwise a small squadron of the enemy's fleet establishing themselves there could completely block the Canal.

The best protection of the Canal at the outbreak of war is its remoteness from Japanese possessions, the distance from Yokohama being 7,700 miles. Honolulu, moreover, is almost on the direct route.

In the event of the Japanese being victorious in the Western Pacific the question of the defence of the Pacific States comes up, and here, again, a consideration of distance shows how much the Canal alters the naval situation. At present New York is 13,700 miles by sea from San Francisco. By way of Panama the distance will be 5,300 miles. This distance from Balbao to San Francisco is 3,277 miles.

The central station in the war is Honolulu, as the following table of distances shows:—

Honolulu to Yokohama	...	3,380 miles.
Honolulu to San Francisco	...	2,100 "
Honolulu to Manila	...	5,417 "
Honolulu to Panama	...	4,700 "

EFFECT OF THE CANAL WHEN THE UNITED STATES ARE AT WAR ON THE ATLANTIC.

The nearest American fortified naval base in the Caribbean is Guantanamo in Cuba, distant 700 miles. The American domination of Cuba and Porto Rico enables them to block the three northern entrances to the Caribbean.

The Canal will enable the American Navy to concentrate before the outbreak of war. At the commencement of war on the Atlantic the main strength of the Navy should have been already withdrawn from the Pacific, and the Canal would be of no further use in the war, not being, in a West-to-East direction, a line of communication and supply. Therefore if their fleet were defeated it would be better for the Americans to destroy the lock gates and the Chagres spillway and bring the garrison of 7,000 men back to the States, than to deplete their army by sending down large reinforcements to the Isthmus.

The temporary destruction of the Canal would be necessary in order to prevent the enemy from passing through to attack the vulnerable Pacific States.

THE CANAL DURING A WAR IN WHICH GREAT BRITAIN IS ENGAGED, THE UNITED STATES BEING NEUTRAL.

It is an obligation of the United States under the Hay-Pauncefote Treaty, as well as their manifest interest, to keep the Canal open during a war to which she is not a party, on the same conditions as those under which the Suez Canal is operated during hostilities. But it is no part of the duty of the United States, even if it were within her power, to protect the routes to the Canal, and it is therefore important that this country should at once make every provision in this respect.

Thus, whereas Guantanamo guards the windward passage for American vessels it does not for British, and the defences and harbours of Jamaica now resume much of their old importance for us. Moreover, there must be another position of defence and supplies at the eastern end of the Caribbean, *e.g.*, at St. Lucia or Trinidad.

During war with a European Power the Canal will chiefly be of importance to us as a route for wheat-carrying ships from the ports of British Columbia, but if there were trouble between us and the Yellow Race at some future time the Canal would be the route for the naval reinforcement of British Columbia.

The distance from Plymouth to Vancouver via the Straits of Magellan is 14,100 miles, that via the Canal 8,560 miles. From Kingston (Jamaica) to Vancouver via the Canal will be 4,670 miles.

DISCUSSION.

Dr. Miller Maguire: May I volunteer in this deplorable situation of universal silence, before you trouble the Lecturer again, just to say a few words? I do so largely because a gentleman beside me who ought to have said them has urged me to say them in his place. My first word is to congratulate you, Sir, on presiding betimes on what I must say is one of the most valuable indications of the future policy of the world at large that you or any other man will preside over for some considerable period of time. With regard to the Panama Canal's situation I am one of the most inexpert persons, but I have had occasion to discuss the matter here and also at the Colonial Institute in connection with the series of lectures given by me on the "New Pacific," about nine years ago. But any predictions that I made in the course of these discussions I think the distinguished Secretary on your left, Colonel Leatham, would admit have been absolutely verified word for word almost by the experiences of the very able and most useful Lecturer. The lecture shows that, after all, the study of history and strategy and geography is not a mere matter of theory and of book learning, but is productive of fruit as you Sir, also set forth from antique story if people will only listen to the "oracles of time." That the future of mankind lies in this "New Pacific," Lord Roberts on this very platform in conjunction with myself mentioned in March, 1904, just when Japanese soldiers had landed on the Asiatic mainland. We stated that it would be suicidal to ignore the yellow races in any part of our own policy, commercial policy, social policy or military policy.

What Lord Roberts then said has been emphasized by the Lecturer to-day. It appears to me that unless the Americans are able to do what the late General Homer Lee declared the United States could not do—unless she is able to defeat Japan, they will be constructing a canal not only for purposes of danger and futility in itself, but futility followed by danger to Yankee interests within the Pacific as well as futility within the Atlantic. I am personally interested in the Panama Canal, and I am glad to hear that the Lesseps machinery has proved to be of some use. Is not that so?

Dr. Vaughan Cornish: Yes.

Dr. Miller Maguire: That is about the only thing I have heard good about the French Canal since some of my friends and relatives have died at the works, and since some of us lost any little money we had in it. But I am glad to hear that it has been of good in some sense. But what good it will do the United States I do not know unless the United States make the study of war one of its principal objects and occupations. What good can it be to them unless they study strategy and tactics and can defend it against all comers?

Dr. Vaughan Cornish: None!

Dr. Miller Maguire: It is no good. Then, Sir, the Lecturer mentioned the value of distance. I do not think the value of distance counts for much in this case. Distance is obliterated by modern machinery practically, and it is not a greater distance to bring a Japanese army to San Francisco than it was practically to bring an army from Cork to Portugal, in the days of Wellington, about 20 days in each case.

Time is the matter of importance with regard to military operations. It will take only 17 days to bring a Japanese army corps, complete in every respect, to the coast of the Pacific, and it only took 19 days to bring our Army from Cork to the Peninsula, and about 20, if my memory serves, to bring Lord Roberts from Southampton to South Africa. Thus distance will be no security whatever, and the only security will be a superior naval and military force. Sir, we have heard prominent Statesmen going about recently talking about the Anglo-Saxon race, and the unity of races. Sir, you and the Lecturer have proved clearly that the unity of races will not count for much amongst the yellow races and the Anglo-Saxon races unless you add to the unity of races the security of force; and General Homer Lee proved most distinctly that the Americans have not that superiority of force, and that they could not relieve San Francisco even as rapidly as the Japanese could attack it. We are back to this maxim of Lord Bacon in the Napoleonic times of one hundred years ago—"Let no nation expect to be great unless it makes the study of arms its principal honour and occupation"—not the study of cant, and not the study of false philosophy. We are in danger of being ousted altogether by the Eastern races unless we treat them fairly, and that soon. And in that connection I am here to say that I consider they are treated in the most aggravating form of unfairness in South Africa at the present time. Should we not try to treat them fairly in a manly, upright and honourable manner? If not, we ought to be prepared to fight them and to fight Japan, but we are unprepared to fight anybody at the present time. Lord Roberts pointed out that Japan took the bull by the horns when just two or three days even before the declaration of war, it was ready to fight. And what did it do to Russia? It transported hundreds of thousands of men across the sea, an operation we were told

we could not do. Party politicians say that no great trans-Atlantic invasions are possible now. Why could not we do what we were able to do hundreds of years ago. The Japanese did it. I believe the Japanese may attack British Columbia or Honolulu, where they are in considerable numbers, are they not? I am appealing to the lecturer, and I hope he will contradict me—I beg to be contradicted, Sir, I wish him to contradict me. The Russians by one railway—1904-5—transported 1,100,000 private soldiers, 25,000 officers, 200,000 horses, and 1,600 guns, and every one of them was defeated, Cossacks and all, by these men from across the sea—these Japanese. Why? Because, as Baron Suyematsu told me over and over again in my study, month after month, before the war and during it, they proposed to devote all their energies in every respect if they went to war to succeeding in war. They got the best material, information, espionage, guns, officers before going to war, and in enormous quantities. But the Americans are not doing so at all, or anything like it, and therefore they are not ready to fight the Japanese. I agree with the lecturer about the Pearl Isles, but what about the Galapagos? Are they of any importance to the Americans? Would they be of any use in the coming war? I suggest that if the Americans had not Cuba and had not Havana they would make a very poor show indeed in regard to the defences of the Canal. I also suggest that if they had not Manila they would make a very poor show with regard to the counterstroke against Asia. I suggest this. The lecturer agrees? Yes. Well, why have not we them both? We have British Columbia; we have interests in the Caribbean Sea. Why have not we these two places? Gentle shepherd, tell me why. The reason is simply this: that a cabal in the year 1763 gave back what our fleet won in 1762. If I am not greatly mistaken we took both of them, is not that right? It is. Why did we give them back—the two of them? For the same reason that led a philosopher last night to say that 700 years hence all the future generations of mankind will be calling us as much barbarians as we called our ancestors in the Middle Ages fools, if we don't give back everything we ever took. I never called my ancestors in the Middle Ages fools at all. But I never called my Celtic ancestors fools; I am proud of all of them, and I wish they were alive now to hear me. It is a curious thing that these fine American canthers are going to rely on war to defend the Canal. Is that barbarianism? Were all those forts and long range guns folly? Sir, I could say 20 times more if I had 20 times more minutes; but I am here now to congratulate you again, Sir, on presiding over this lecture by Dr. Vaughan Cornish. He has done all of us, especially those who are second-class soldiers like myself, a great benefit in directing our attention to the true lessons of history, without which no nation in any age since Charles V., Emperor of Germany, insisted in vain on the necessity for a Panama Canal, can hope to succeed. As I was listening to this magnificent lecture my imagination was almost exhausted. I looked at this audience with a kind of wild surmise knowing what was in store for their future; I looked at them with a wild surprise also, just as some star-gazing philosopher feels when a new planet swims into his ken, or as that stout Spanish explorer, Cortez, stood silent with amazement looking over the first seen ocean as Keats says, from that peak in Darien. I congratulate you, Sir, and I hope to goodness that the lecturer will be able to prove that no danger can possibly arise to this nation from our neglect in that new centre of strategy—the Caribbean Sea—of our truest interests. The old Pacific lay before the brave Spaniard and all his men.

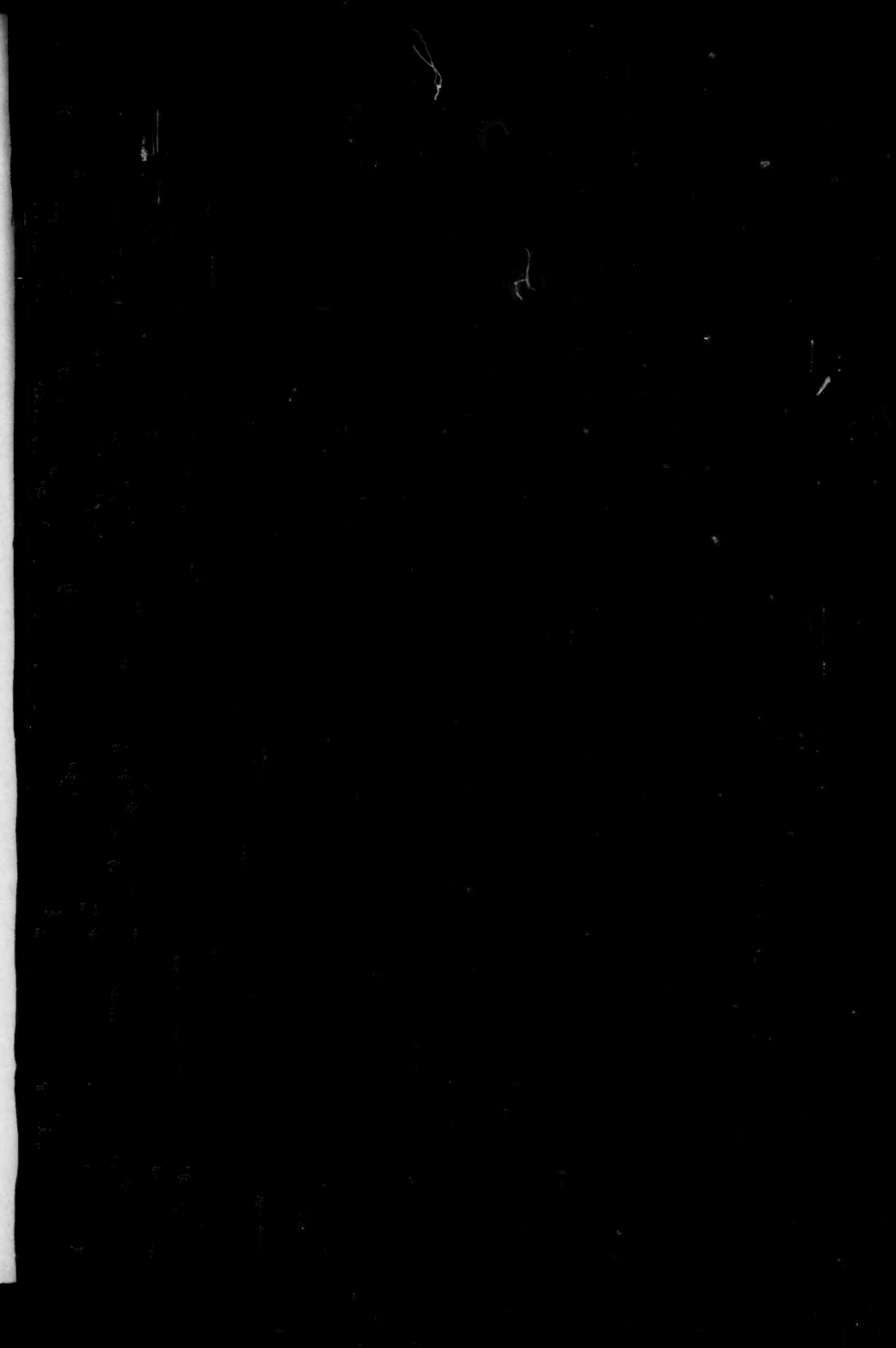
The new Pacific lies before us from Australia to Vancouver. Will we be "ousted" by Japan or "choused" by the United States? Listen to Lord Roberts, who still preaches, and read Baron Suematsu's "Risen Sun," and learn from Bacon and Shakespeare to be true to yourselves.

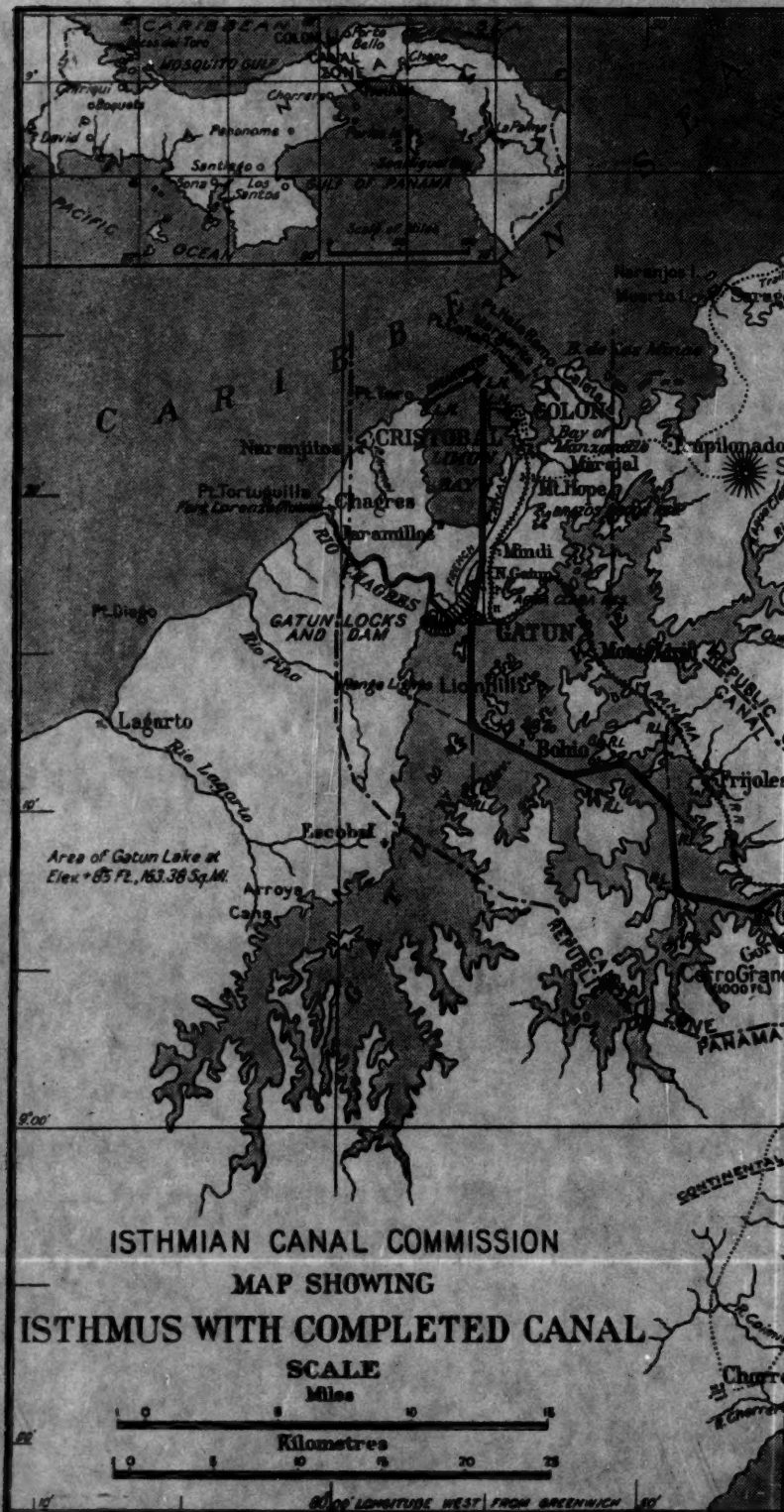
Captain Chas. Slack: I think it would have added to the interest of the lecture if Dr. Vaughan Cornish had given more particulars on the question of freights. He did refer to the question of San Francisco and the carrying of grain through the Panama Canal, but he did not give us any data on which to make deductions. I would remind him that he must not forget the Hudson Bay route. The railway 400 miles long going off from the line near Winnipeg to Port Nelson is, I believe, half-way completed, and when that is built the Hudson Bay route for grain brought up from Saskatchewan and other grain-producing provinces will, to a very great extent, counteract the Panama passage as regards freight. I think it would be well if Dr. Vaughan Cornish would look into that question, because I think it is a very important point for future discussion with reference to the Panama Canal.

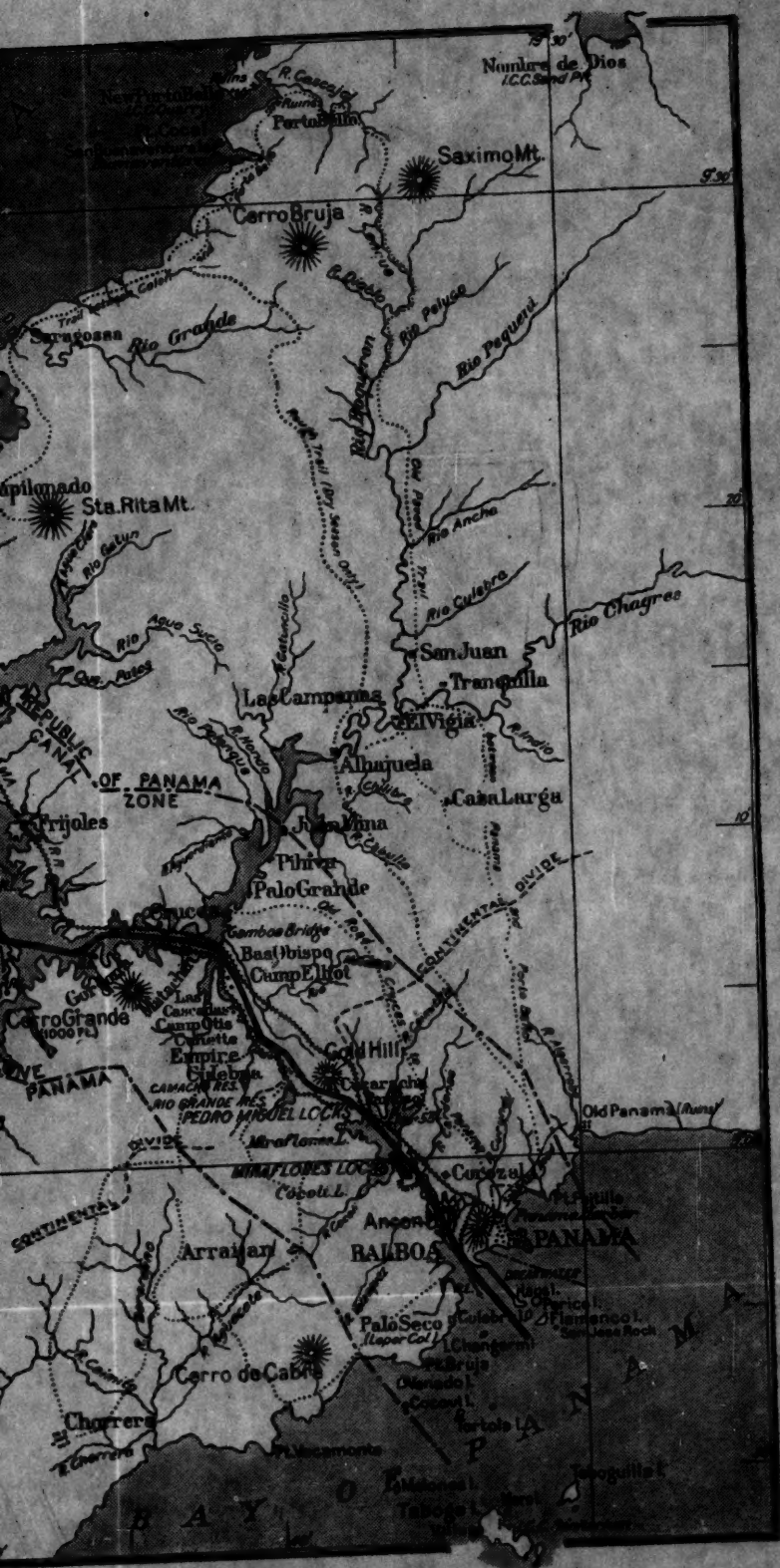
Mr. R. W. Smith: May I ask permission to say a few words. As a Jamaican my candid opinion is that a future war in the Caribbean Sea will not have anything to do with Japan at all. It seems to me, as far as the investigations I have made go, that the Americans are determined that the Caribbean Archipelago shall become an American Sea. Furthermore at the Royal Geographical Society the late American Ambassador made a statement with reference to those Islands. But, gentlemen, the crux of the matter is that you have to look at the question from the practical standpoint. In the future, as in the past, Jamaica is likely to play a more important part than it has played hitherto, for the simple reason that through the way in which peaceful business is going on among the Caribbean Islands by the Americans, it is only a question of time that they will eventually force you to give up those islands or to fight for them. Everybody knows that who has studied the problem. Sir Harry Johnstone has practically said so. I am a bit afraid that the Colonial Office to-day is asleep, and that the little business that arose in Jamaica over the Stonham affair and Admiral Davies has given the authorities some sort of idea to favour Americans. It is rather serious for those of us who are already British. My ancestors fought in the Caribbean Archipelago. They were there and made the Empire as you understand it; and to-day the crux of the matter is that, after a couple of hundred years, if the Americans come there under the conditions in which we are placed to-day in the Caribbean Archipelago we are likely to lose those islands whether we like it or not, for they are defenceless.

Dr. Miller Maguire: So are these islands.

Captain Harold Fisher: There is only one point to which I wish to refer—a point on which a great deal of stress was laid by the Lecturer, namely, the possible attacks that may be made on the Panama Canal when it is completed. According to Dr. Vaughan Cornish, those attacks are likely to be made at either end of the Canal. The whole history of the making of the Canal seems to me to point to the fact that its vulnerable point is not either at one end or the other but at the middle—that one cartridge exploded by a spy, in the middle of the Canal will set going that landslip which will effect your purpose far more cogently than the taking of partly fortified islands at either end.







Dr. Vaughan Cornish, in reply, said: Dr. Miller Maguire raised a point about the Galapagos Islands. At present one need only consider the question in the Pacific of a war between America and Japan, and I think that the Galapagos Islands are too far from any of the present possessions of Japan for them to be made a permanent naval base, and they are too far from Panama for a temporary advance naval base. For the latter purpose I think the Pearl Islands are ideal, because they are well out of the reach of the guns from the shore, and yet they are close enough in to enable one to block the Canal. With regard to the point raised by Captain Fisher, there are two uses of the Pearl Islands. One would be to block the canal as a line of communication. A few ships detached from the Japanese Fleet might do that without taking the Canal at all, but by simply preventing its use. But supposing the Canal is to be attacked, there is no doubt, as Captain Fisher says, that it is the central part of the Canal, the locks or the spillway, which would be the subject of attack. But then the enemy must come by sea, and it seems to me if they come from the Pacific side the Pearl Islands are the most convenient place for them to establish themselves, and then to make their land attack from there. But a solitary stick of dynamite will make no difference to these landslides, because they have already fired a million shots a year there. What would have to be done would be to overcome the garrison and the guard at the locks and spillway, get possession of those places for two or three days, and thoroughly break up the structures. Another speaker referred to the question of freights. The question of freights is not really settled. We do not know what the freights are going to be. But, as the point has been raised, I may venture on a prophecy in general terms, and that is, I am quite sure that in the end every effort will be made to make the Canal attractive to shipping. Public opinion in America will demand that that Canal shall be used very largely.

The Chairman: Ladies and gentlemen, very often at these meetings the Chairman is able to continue the discussion and to put some valuable views before the meeting. I regret that I cannot do so, because this is a highly technical subject, with which I am not familiar. I have come here to listen and not to speak. We have had such a lucid explanation from the Lecturer of the position of affairs, that I do not think I should be justified in inflicting general views on you on a matter which is strictly technical. All I will say is that I have passed a very pleasant hour this afternoon, and that it has been an extremely good lecture—I am sure you will all agree about that. It was full of matter, and the manner of its delivery and the slides that were shown too were very effective and to the point. I am sure we are all grateful to the Lecturer, and I hope you will unmistakably show that you agree in the vote of thanks which I now propose to him.

The resolution having been carried by acclamation, on the motion of Colonel Sir Lonsdale Hale a vote of thanks was accorded to the Chairman for presiding, and the meeting terminated.

BARON DE ROLL.

By M. JOHNSON.

A SMALL faded oil painting represents a stout bald-headed veteran of 60 years or so, ruddy-faced and weather-beaten, known as the Baron De Roll.

On the back of the portrait is pasted a short obituary notice of this gentleman, taken from the Annual Register :¹

“ August 27th, 1813. At Tunbridge, in his 61st year, Baron de Roll, a native of the Canton of Soleure, in Switzerland. At the early age of 15 he entered the Swiss Guards of the King of France, and was a captain in that corps and Aide-de-Camp of the Comte d'Artois at the time of the Revolution. He afterwards resided at Berlin as the agent of the Bourbon family, where he raised the regiment bearing his name.”

BARON DE ROLL, 1752—1813.

The obituary notice contains the Baron's history, and what a history is contained in those few simple lines ! The cadet of 15, heir of an ancient Swiss family which had given many stalwart sons to fight for France, arrived in Paris in 1767 to join his regiment.

His childhood had been passed in his ancestral château among the Swiss mountains ; he was probably tutored by the family chaplain, and brought up very strictly in the Roman Catholic Faith, for they are all staunch Roman Catholics in Soleure. In winter he killed wolves with the family huntsman, who taught him all the secrets of the chase. Another old retainer made an expert swordsman of him, that would be quite certain.

But the quiet pastures and rugged mountains of his native land were no place for a spirited youth who inherited all the martial instincts of his forefathers ; and whose broad shoulders still, even in his portrait, vouch for the truth of the statement that the King of France's Swiss regiments required several inches more actual space per man than his French ones.

And so, fresh from the country, and speaking French with a strong German accent, which he never lost, young de Roll came to Paris in the year 1767, and entered the historic Swiss Guards.

In his portrait he is represented wearing a plain dark coat in which he may have travelled about the Continent in troublous

¹ Obituary. Annual Register, Vol. 55, 1813.

times, and passed unobserved beneath the very noses of his greatest enemies. But "the uniform of the Gardes Suisses¹ was a scarlet coat with facings and revers of royal blue, laced with silver; white waistcoat and knee breeches and long white gaiters. The officers wore silver gorgets, with a gilt medallion in the centre on which the Royal Arms were enamelled; the plate of the waist-belt was of the same pattern. Field officers and captains had two silver epaulettes, subalterns one only. The three-cornered hat was bound with silver lace, and had cords and tassels of blue and gold. The sword knot was blue and gold."—Truly, between his old blue coat and this splendour of his youth there is the difference of night from day!

The King of France, when young de Roll first joined the Guards in 1767, was Louis Quinze; he was old, and was ruled by his beautiful favourite, Madame de Pompadour; afterwards, when she died in 1769, by Madame Du Barry. His only son, the Dauphin, died in 1765; and his orphan grandsons were mere boys like de Roll himself; the youngest, the Comte d'Artois, was only 11 years old.

The Court of Versailles was profligate and extravagant; not at all the best place for young boys; but it was the most polished Court in Europe. Young de Roll, therefore, being of good family and attached to a crack regiment, which was constantly on duty in the Royal Palaces, would have to acquire the fine manners and deportment necessary to his position.

"A young man's entry into society necessitated deep study in those days," wrote a contemporary Frenchman.² "It required no small skill to enter with assurance and grace into a drawing room, . . . to advance to the hostess and to retire with honour, whilst managing without awkwardness a dress-coat, lace, a head dressed with powdered curls, a hat under the arm, and a sword, the point of which reached to the heels," etc.

It must also be remembered that the ladies wore hoops and powder, and were formidable beings not easy to approach. Everyone moved slowly and with dignity, with stately bows and curtsies; and very much form and ceremony were observed.

Probably young de Roll took a course of lessons in deportment. At any rate, he learned to hold his own in society, or he never would have become, as he afterwards did, the constant companion and friend of the Royal Princes, and especially of the fascinating Comte d'Artois, whose manners were considered by some people to be even superior to those of the Prince Regent (George IV.) himself.³

In 1770 (in May) the eldest of the three Royal Princes was married at Versailles to Marie Antoinette of Austria; she was

¹ "Swiss Regiments à l'étranger." JOURNAL of the R.U.S.I., Vol. 41.

² Recollections of Baron de Frénilly.

³ Madame De Boigne.

but 15, the Prince was 20. Four years later Louis Quinze died, and the young couple became King and Queen of France.

In 1775 King Louis XVI. and Queen Marie Antoinette made their entry into Paris; they were young and noble-looking, the Queen especially radiant and full of gaiety. "Dressed in white,¹ they sat in one of those magnificent carriages which were monuments of sculpture and chiselling. Everything was gay and enchanting; the ladies' dresses all beflowered and befeathered; the costumes of the men all silk and embroidery."

De Roll must have attended that wedding and Coronation in his gorgeous uniform of red and blue and gold, with lace ruffles at his wrists, and his hair well curled and powdered and tied in a queue behind. Later, no doubt, he witnessed the fêtes and frolics at the Queen's model village at Petit Trianon, where the Comte d'Artois took a prominent part in theatricals, etc.

So 25 years passed by.

De Roll was now a dashing captain, familiar from boyhood with Court etiquette and magnificence, an officer well known and trusted by every member of the Royal Family of France. He was also Aide-de-Camp to the Comte d'Artois, who had been appointed Colonel-General of the Swiss Guards, therefore it is fairly certain that he was Captain of No. 1 Company of the First Battalion, which was the Colonel-General's own company, and the strongest and most ancient in the regiment.

De Roll had seen his Princes grow up to manhood surrounded by flattering courtiers, and knowing absolutely nothing of the hard world outside until an unkind fate suddenly pitched them into it; therefore De Roll was able to sympathise with them thoroughly when the bad times came, and to understand their feelings when they had to "rough it." For the dreadful Revolution was at hand:—"There was a sound in France as of an awful storm, with a great sea rising."

The Comte d'Artois was one of the first to leave Paris after the taking of the Bastille in 1789; and de Roll must have found it somewhat of a puzzle to fit in his duties as captain of his regiment with his desire to follow the Prince as Aide-de-Camp. He seems to have managed to combine the two for a time, however, as he was sent by the Comte d'Artois to Berlin, to procure troops from the King of Prussia to aid in the re-establishment of order in France.²

His duties as captain of his regiment of Swiss Guards ceased for ever on August 10th, 1792, the awful day when the mob attacked the Tuileries Palace and the regiment came to an untimely end.

Many accounts have been written of that memorable 10th of August, when the Swiss Guards were butchered almost to a

¹ Baron de Frénilly.

² Lamartine Girondists, Vol. I., p. 196.

man in the defence of the Tuileries Palace. Early in the morning the Royal Family took refuge with the Legislative Assembly in the Manège, a large hall formerly the riding school. Perhaps de Roll's last duty among his old comrades of the Guard was to lead the faithful band who formed the escort.

All the rest of his life he must have remembered that sorrowful procession which silently descended the grand Escalier de l'Horloge lined with loyal Swiss troops whose old moustaches streamed with tears. And then across the beautiful gardens of the palace, where the hot sun lit up the chestnut trees and fell heavily on the mournful figures of the unfortunate King and Queen and the little Dauphin. It was the last time any of them saw that familiar garden! It was the last day of Court life for many another besides Captain de Roll!

Strong measures might have quelled the tumult. Had Henri de Navarre been King of France that day he might have driven back the mob that was like wild beasts let loose! But Louis XVI. inherited none of the valiant spirit of his great ancestor. The rabble attacked his palace, and the King, a hostage in the assembly, sent orders to his Guards that they were not to fire upon the people—alas, poor soldiers; The infuriated populace hunted every redcoat down, massacred them in cold blood, and hacked them in pieces! In the evening bonfires of charred furniture lit up the scene of havoc and desolation. The disfigured bodies of the soldiers lay in heaps, and here and there a brocaded waistcoat or lace ruffles showed that some brave gentleman attached to his sovereign, and knowing his danger, had joined the ranks of the Guards and put on a uniform coat.

All was over for the King, for his friends, for France. The only thing to do was to escape if possible, and somehow or other de Roll managed it. From those awful scenes, with the sound of screams and musketry and fiendish massacre in his ears, by some miracle de Roll got safely away.

"The brilliant Court of poor Marie Antoinette has melted away, like snow-wreaths in autumn," wrote an English lady at this time (Lady Elliott) to her sister, "and Baron de Roll nobly maintained a soldier's honour, nor sheathed his sword until his sovereigns had been made captive and their last defenders had perished."¹

From that day the Baron's life was one of wandering and hardship. That first hairbreadth escape was but the first of many another; but he had a genius for escaping, and never was captured.

There were no longer any Swiss Guards, but there still remained the Comte d'Artois, to whom he was Aide-de-Camp and faithful friend to the end of his life; and from the Tuileries he seems to have made his way to Berlin, where he was the

¹ "Life and Letters of Sir Gilbert Elliott."

accredited agent of the Bourbons, and where he set to work to raise a new regiment for their service.¹

Lamartine asserts that "Baron de Roll, in the name of the Comte d'Artois, and the Viscount de Caraman, in the name of Louis XVI., had possessed themselves of all the avenues to this Cabinet (Prussia). They defeated the plans of M. de Ségur, sent by the French Republican Party to Berlin to arrange an alliance."² It is hinted that bribery was used to gain access to the King of Prussia, and also that feminine influence played a part—what could a Republican do in such a case against two experienced courtiers of Versailles?

Meanwhile the French Princes and the exiled nobility were collecting an army to attack the Republic and restore the "ancien régime." These poor French gentlemen were most of them in a sad state of utter destitution, and suffered hardships of every description in the campaigns upon the Rhine. The sympathy of Europe drew to their aid (especially after the cruel murders of their King and Queen) allies from Austria, Prussia, England and other countries.

We can imagine the grief and horror of de Roll and the Comte d'Artois, and the whole emigrant army, at the appalling news that reached them of their friends and acquaintances, and even their King and Queen, who went in one long procession to the scaffold. Presently the King's valet, Cléry, made his way to them, with all the details of the last days of his Royal Master in prison in the Temple.

Well did they know that grim fortress with its pepper-pot towers! The Comte d'Artois, when in Paris, resided at the Temple Palace, which adjoined the fortress, in his capacity as Grand-Prior of the Knights of Malta.

Cléry states in his diary that when the Royal Family were taken to the fortress as prisoners in 1792, some furniture was brought for their use from the Temple Palace. The green damask bed for the King was taken from the apartments of the Comte d'Artois, Captain of the Guard. De Roll's bed! evidently a four-poster with green hangings. How interested he must have been to learn that his unfortunate King slept in it during the last sad weeks of his life.

The Baron de Roll, not being a Frenchman, was not in the ruined condition to which most of his companions were reduced at this time. His estates in Soleure remained safe and quiet, and no doubt he was able to render some assistance to old comrades in distress. Perhaps he entertained some of them at his château among the Swiss mountains; but the emigrants were most of them in Holland with the army.

In February, 1793, an English force under the command of the Duke of York was sent to Holland, where the troops of the

¹ Gent. Mag., 1813, obituary.

² Girondists, Vol. I., p. 208.

French Republic under General Pichegru were carrying all before them. The emigrants swarmed at the Duke of York's headquarters, among them the Comte d'Artois, with Baron de Roll in attendance.

Mr. Windham, the English Secretary for War, went over to visit the camp at Bois-le-duc, and mentions meeting him there; he describes him as "the Baron Roll, a quasi French."¹ The Baron is also alluded to in letters written home from Holland by General Calvert, then on the staff of the Duke of York, who adds that he will "with much pleasure show him every civility and attention in his power."²

The Comte d'Artois arrived in September at Wichen, a village near Bois-le-duc, and used to send bits of information to headquarters. "Baron de Roll called this morning," writes General Calvert, "and informed me that he has it from very good authority that the garrison of Graave, on being bombarded, would surrender." The Baron did not lead his own regiment to victory on this occasion. Unfortunately the Regiment de Roll was as yet in its infancy, and it was a long and arduous business to collect and equip the men. Perhaps this was pointed out to Mr. Windham while he was visiting the English camp in Holland.

The English Army were suffering reverses, and after a terribly severe winter were driven out of the Low Countries by Pichegru and his Republican soldiers. The hard frost had turned the canals with which Holland is intersected into solid ice, and transformed them from natural defences and barriers into excellent roads, which made the conquest of the country astonishingly easy. Conscription had also been introduced by the French Republican Government, and swelled the numbers of its Army.

The British War Office was in dire need of recruits, and now engaged Baron de Roll to collect a Swiss Regiment of two battalions for them. Nothing could have pleased him better. In fact it seems highly probable that he may have suggested it himself to Mr. Windham. Next year we find him in his native country, Switzerland, spending all his energies and all his money upon the regiment, and aided by the British Minister there with advice and subsidies from England.

It was not by any means the first time that a member of the Baron's family had been so engaged. For centuries the good old name of de Roll recurs in the muster lists of the Swiss Regiments.³ There was a Walter de Roll who commanded a Swiss Regiment fighting in the Netherlands for Philip of Spain as far back as 1574; and again in 1686 a Baron

¹ Windham's Diary, 1794.

² Correspondence of General Sir Harry Calvert.

³ JOURNAL of the R.U.S.I., Vol. 41.

de Roll of Soleure carried a regiment to fight the Turks, under the flag of the Lion of St. Mark.

The Canton of Soleure had always been the chief recruiting ground for the King of France's Swiss Guards; but now, when the French Republic discovered that men were being enlisted there for the service of England, strict measures were put in force to prevent it. Mr. Wickham, H.B.M. Minister in Switzerland, was heart and soul in the cause. He devotes three pages of his Correspondence to a description of the Regiment de Roll in 1795. "The regiment at this moment consists of 1,200 effective men. How it has ever proceeded so far towards its completion is more than I can undertake to explain. . . . Whatever the raising this regiment may have cost to His Majesty, more than double that sum has been expended in opposing it." (By the French Republic.) "I should mention also that the Baron de Roll has to my own knowledge expended a very considerable sum in gaining over the leading persons in some of the lesser Cantons."¹ Etc., etc.

It is evident that the old soldiers of the King of France, who had been disbanded by the Republic and were unwilling to join its Colours, flocked with alacrity to their former captain, as soon as there was a prospect of getting their pay. "*Point d'argent, point de Suisse*" is a well-known saying; but now that Great Britain stood behind the Baron, he soon saw before him a fine body of stalwart mountaineers.

"They were dressed like the British Infantry of the Line, in scarlet; their lace was silver, except for one company of chasseurs in each battalion, who were dressed in green and armed with rifles. The colours were red, with a white Swiss cross, and were a gift to the regiment from the noble ladies of Soleure."²

The regiment being now ready for action it was decided that it should be sent to Corsica, which at this time was occupied by the British. They accordingly marched from Switzerland and through Northern Italy in the early spring of 1796, and arrived in due course at their destination.

After the death of the poor little Dauphin in 1795, the eldest of the exiled Princes had proclaimed his right to the throne of France, and assumed the title of Louis XVIII. He was then at Verona, and the English Government had sent Lord Macartney on a mission to him there. His lordship writes thus of the regiment in February to Mr. Wickham: "The Regiment de Roll . . . crossed through this territory to Mantua in the course of last week without any unpleasant occurrence. . . . They must now proceed to Civita Vecchia, unless the Grand

¹ Correspondence of Rt. Hon. Wm. Wickham, p. 64.

² Their second set of colours, of which Milne gives an illustration, were quite different.

Duke of Tuscany can be prevailed upon to grant, or connive at, their going directly to take shipping at Leghorn. The whole number of effectives does not exceed 1,800 men, but the number of women accompanying them is much beyond the usual proportion."¹ Etc., etc.

Lord Macartney does not say whether Louis XVIII. reviewed the regiment while it was in his neighbourhood. But even if this were not considered prudent in such critical times, it must have greatly cheered the exiled King to see Baron de Roll, and to know that so many staunch friends were near. He was now obliged to quit Verona, and hardly knew where to find shelter.

The Republican troops entered Verona in May, under General Bonaparte, who had lately been appointed to the command of the Army in Italy, and "who announced that had Louis XVIII. not previously left the refuge of its walls he should have given the city to the flames."²

Meanwhile the Regiment de Roll had arrived safely in Corsica, then in occupation of the English and governed by Sir Gilbert Elliott. Lady Elliott was living there with her family, and was delighted to welcome and entertain the officers. She wrote to her sister³: "De Roll's Swiss Regiment is a prodigious fine one. The lieut.-colonel is a most charming man, and was captain of the Grenadier Guards on duty the famous, or rather infamous, 10th of August. He and three other officers were, I think, all that escaped, and 80 odd soldiers out of the whole regiment. He dined here yesterday, and gave me a full account of that horrid scene and his own miraculous escape, and is to give me a written history of all the various events that preceded that horrid day." De Roll must have enjoyed the parties in that wave-washed garden of Corsica, where he and his brother officers were sometimes joined by British officers from the Mediterranean Fleet, among whom Lady Elliott mentions "Commodore Nelson, with his shock head and simple manners, and a hero's heart."

These pleasant days were soon cut short, however. King Louis XVIII. was anxious to gain the allegiance of his cousin, Louis Philippe, the Duke of Orleans, and despatched Baron de Roll with a letter offering to give him a commission in the *émigré* Army. The young Duke, whose father (known as Philippe Egalité) had been guillotined in 1793, was at Ham-burg, where de Roll had an interview with him.

Subsequent events proved that Louis Philippe of Orleans was never at heart a loyal adherent to the elder branch of his family. He proved unmanageable, refused all advances, and departed to America, where he arrived in October, 1796. The

¹ Wickham Correspondence, p. 263.

² "Life and Letters of Sir Gilbert Elliot."

³ *Ibid*, Vol. II., p. 337.

Baron crossed to England to rejoin the luckless Comte d'Artois, who (after playing a contemptible part in the dismal Quiberon Expedition, where so many brave men lost their lives for his sake) had taken refuge in England. The British Government was rather perplexed what to do with him, and he was sent to live at Holyrood House in Scotland, "in order to secure his person against arrest for debt."

To Holyrood, therefore, de Roll betook himself, and for the next few years was employed in carrying messages from this extremely dull and inconvenient spot to one exiled Prince or another in various parts of Europe.

Sometimes they had sufficient prudence not to put these dangerous communications into writing. "Baron de Roll will tell you," wrote the Comte d'Artois.¹ "You are too well aware of my confidence in the Baron de Roll for it to be necessary for me to add anything here to the verbal message with which I have charged him for you."

As the Baron passed through London he sometimes called to see Mr. Windham, the War Secretary, who notes the fact in his diary.² "Saw Baron de Roll, first time since his return from Verona."

"Baron de Roll, with communications of business from Monsieur."

"Baron de Roll, etc., at dinner at the Prince of Wales's." In spite of these excursions, however, the inaction of the life at Holyrood became intolerable; and in April, 1799, the Baron wrote to Mr. Wickham in Switzerland: "Monsieur wishes to be actively employed. . . . I flatter myself also, my dear Wickham, that you have not forgotten me, and that you will remember that the blood which runs in my veins is Swiss, good old Swiss."

He was longing to take part in the struggle which was taking place in his native country, and left Holyrood for Switzerland in July. We find him in September in the thick of the battle of Zurich, when he was sent post haste with Colonel Ramsay to fetch General Korsakoff and his Russians. Owing partly to the defection of the Austrians and partly to the late arrival of the Russians, the battle was lost, and Mr. Wickham's Correspondence contains a most exciting account of his wife's narrow escape from Zurich "in a travelling carriage, with eight or nine gentlemen going full gallop with their swords drawn, whilst the carriage with four horses puffing and snorting in full gallop also, made a tremendous cloud."

The Baron was in no hurry to return to Holyrood—and stagnation. He repaired to Augsburg, a far more congenial spot, which had been more than once a rallying ground for the

¹ Wickham Correspondence, Edinburgh, July, 1799.

² Windham Diary.

³ Wickham Correspondence, p. 238.

principal Swiss *émigrés*. At Augsburg, in the winter of 1799, was General Pichegru, recruiting his strength after his escape from Cayenne. He was now an ardent Royalist, and with him was Monsieur de Fauche-Borel, who relates a ridiculous story of the way these hardy adventurers amused themselves in their short intervals of holiday and freedom.¹

In the springtime of 1800 the Baron returned to England. At a levée in May he was presented at Court to King George III. How it must have recalled the old days to take part once more in a Court function after all those weary years. Did he perhaps put on his splendid trappings of the Gardes Suisses? More probably he wore the uniform of his own Regiment de Roll, which joined Sir Ralph Abercrombie's successful campaign in Egypt, and did very well.

An interesting note in Sir Walter Scott's "Life of Napoleon"² shows us the Baron on one of his errands in 1802.

"A remarkable letter from the Prince de Condé to the Comte d'Artois, dated January 24th, 1802, contains the following passage, which we translate literally:—'The Chevalier de Roll will give you an account of what passed here yesterday. A man of very simple and gentle exterior arrived the night before, and having travelled, as he affirmed, on foot from Paris to Calais, had an audience of me about eleven in the forenoon, and distinctly offered to rid us of the usurper by the shortest method possible. I did not give him time to finish the details of his project, but rejected the proposal with horror, assuring him that you, if present, would do the same. I told him we should always be the enemies of him who had arrogated to himself the power and the throne of our sovereign, until he should make restitution; that we had combated the usurper by open force, and would do so again if opportunity offered; but that we would never employ that species of means which only became the Jacobin party; and if that faction should meditate such a crime, assuredly we would not be their accomplices.' This discourse the Prince renewed to the secret agent, in the presence of the Chevalier de Roll, as a confidential friend of the Comte d'Artois, and finally advised the man instantly to leave England, as in case of his being arrested the Prince would afford him no countenance or protection. The person to whom the Prince de Condé addressed sentiments so worthy of himself and of his great ancestor, afterwards proved to be an agent of Bonaparte's, dispatched to sound the opinions of the Princes of the House of Bourbon, and if possible to implicate them in such a nefarious project as should justly excite public indignation against them."

Soon after this followed the Peace of Amiens, which brought about a short lull in the war between France and England. It has been said that it really never was a real peace, but rather

¹ Fauche Borel Memoirs, Vol. II., p. 340.

² "Life of Napoleon Bonaparte," by Sir Walter Scott.

an armed truce, for neither country trusted the other, and each kept a suspicious watch upon his neighbour's movements.

The English regarded Bonaparte with an extraordinary mixture of contempt and terror, and in spite of all that the authorities could do to prevent it, he was caricatured in the papers in a manner which raised his ire to the highest pitch. He, for his part, made what were considered impertinent demands upon the English Government, requiring that the French Princes should be turned out of the country whose hospitality they were enjoying, and mentioning Baron de Roll by name as specially obnoxious to him.

The English Ambassador, Lord Whitworth, found his position far from easy in Paris, and wrote in his despatches¹ :— "He (the First Consul) told me that two men had within these few days been apprehended in Normandy, and were now on their way to Paris, who were hired assassins, and employed by the Bishop of Arras, by the Baron de Roll, by Georges and by Dutheil, as would be fully proved in a court of justice, and made known to the world."

It is certain that he wronged the Baron, who was no assassin. It is equally certain that it was not to the interest of the Bourbons and their adherents that Great Britain should be at peace with France, and they were heartily glad when the war was renewed. They had nothing to lose by war, but might eventually be considerable gainers. Meanwhile they rested secure in hospitable England, and the Baron's name figures in the list of guests at many dinners and receptions at great houses.

During the year 1804 he is frequently mentioned in Mr. Windham's diary, and must have known all about the conspiracy of Georges and Pichegru, which ended so tragically. He was undoubtedly a trusted confidential agent of the Bourbons.

In 1804 the Comte d'Artois was in London. Madame de Boigne² relates how he used to go every day to sit with the poor Countess Polastron, who was devoted to him and was dying. The Baron de Roll used to walk with him to her door, and go again to fetch him at the end of the day. According to Madame de Boigne it was the influence of Madame de Polastron that kept the Comte d'Artois from going to lead the Royalists of La Vendée. She died that same year, and was buried (temporarily) in Old St. Pancras Churchyard.

A piece of Madame de Boigne's gossip may be quoted here as showing us glimpses of our friend the Baron, and the sort of thing that was going on.

"M. de Frotté, the general's brother, came to London. His mission was to warn the Comte d'Artois that La Vendée

¹ Despatch from Lord Whitworth to Lord Hawkesbury, February, 1803, Paris.

² *Memoirs of Madame de Boigne*, Vol. I., p. 104., *et seq.*

was lost unless some Prince appeared there. The Comte d'Artois received him surrounded by what he called his council: the Bishop of Arras, the Chevalier de Puységur, the Baron de Roll, M. du Theil, and some others, eight or ten in all. It should be noted that the head of M. de Frotté, who was starting next day, depended upon their secrecy. He reported the state of La Vendée and the prospects it afforded. Everyone raised objections, to which he replied. It was admitted that the presence of the Comte d'Artois was necessary for success. The difficulties of the journey then came forward, and these he surmounted. The question then arose as to how many valets-de-chambre, how many cooks, physicians, etc., the Count should have. All was discussed and agreement was secured. The Comte d'Artois took no great part in the discussion and seemed ready to start. M. de Frotté said in conclusion: 'I may inform my brother then that my lord will be upon the coast at such and such a date.'

"'Excuse me,' said the Baron de Roll, with his German accent, 'excuse me. I am captain of the bodyguard of the Comte d'Artois, and am consequently responsible to the King for his safety. Can M. de Frotté assure us that the Comte will run no risk?'

"'I tell you that a hundred thousand of us would die before a hair should fall from his head, and I can say no more.'

"'I appeal to you, gentlemen, is that a sufficient security on which to stake the Comte's safety? Can I consent?' the Baron replied.

"All answered in the negative, asserting that it was impossible. The Comte d'Artois dismissed the meeting, wishing M. de Frotté a good journey, and regretting the necessity of renouncing an enterprise which he would himself recognize to be impracticable.

"M. de Frotté, stupified for the moment, banged the table with his fist and cried with an oath that they did not deserve that so many brave men should risk their lives for them.

"The Comte d'Artois undoubtedly was not one of those desperadoes who go in search of danger; but if those about him had encouraged him instead of checking him, he would have gone with M. de Frotté, instead of staying in London. Not one of the councillors in attendance upon the Comte d'Artois had any desire for an adventurous expedition, the prospects of which were wholly uncertain, while the fatigues and privations were guaranteed.

"The Baron de Roll was in this case the mouthpiece of Madame de Polastron. . . whose devotion to the Comte d'Artois inspired her with fears for his safety but not for his glory. . . At this time also the household income was very insufficient. M. du Theil, the major-domo of the Comte d'Artois had an inspiration. . . An enterprise was announced for the near future

in Normandy or Brittany, and by this means some thousands of pounds were obtained from the English Government. Two or three hundred were given to some poor wretch who went to meet his death on the coast, and the rest was swallowed up by the caprices of Madame de Polastron. It is not known if the Prince was a party to these swindles. At any rate, he tolerated them and must have known of their execution, for when the manœuvre had been repeated thrice within a single month, Mr. Windham found it out, and expressed himself in energetic terms."¹

Perhaps the Baron de Roll was mistaken in keeping the Prince so carefully guarded. One is tempted to wish that the Comte d'Artois had been allowed to play a more heroic part, and to join in some of the efforts made by his brave and devoted adherents in La Vendée. They so often begged for a Prince to lead them, and he was a well-built handsome man, not so over-fed and unwieldy as his brothers, a keen sportsman and an excellent shot. "All is lost but honour," was a phrase the exiled Princes were fond of quoting; but if the gallant King Francis I., who uttered those words after a desperate personal encounter with his foes upon the field of battle, could have witnessed the conduct of his degenerate descendants, he might have been very justly indignant at being quoted by them.

In fact, there was but little honour gained by the Comte d'Artois during his long life. Surely it would have been more worthy of his name and race to die in a valiant struggle to regain his inheritance than to live as he did, ingloriously, to the age of 80, without having performed one deed of courage that can be recorded by the historian.

De Roll died at Bounds, near Tunbridge, in 1813. So he never saw the restoration of Louis XVIII. to the throne of France, for which he had worked so hard and risked so much. Nor the splendid monument which was raised at Lucerne to the memory of the faithful Swiss Guards who died at their post at the Tuileries in 1792.

The "Gentleman's Magazine" for 1819 adds a few details to the obituary notice copied from the Annual Register: "He was just returned from Colberg, where he had followed His Royal Highness, Monsieur (the Comte d'Artois), of whom he was the most devoted and most particular friend, having never left him since the fatal beginning of the French Revolution."²

"Monsieur will be much affected," wrote Lady Jerningham,³ "as the Baron de Roll was always in particular favour with him. He was always very gouty. They wrote up to London to consult Père Elisé, premising that he had been blooded to

¹ Boigne Memoirs.

² Gentleman's Magazine, 1813, p. 301.

³ Jerningham Letters, p. 36.

appease the fever. Père Elisé said: '*Il a été saigné? il est mort!*' and accordingly that was the next bulletin. His wife is inconsolable. M. de Montyon says: '*C'était un Honnête Homme, mais de toute Nullité.*' However, a sincerely attached friend to an unfortunate Prince is always of some consequence."

Society had been inclined to poke fun at the worthy Baron, and considered him henpecked. His qualities were evidently more solid than brilliant.

"They laugh unmercifully at the Baron," said Lady Granville, writing from Trentham, where there was a large house party, principally French. "And you should have heard the shout when he said by mistake: '*Monseigneur, si jamais j'ai le gouvernement d'une vieille,*' instead of *ville!* They play at Quinze half the night, too deep, I think, as the Baron has lost £150. Monsieur is here and the Duke de Berri and Puységur. Lord help them! Their only *héros de roman* are the Baron de Roll and the Duc de Castries."¹

Tom Moore² tells another short anecdote of this visit at Trentham: "Lady Stafford wishing one day to get rid of him, pointed to a mountain at a distance, which she told him was very curious, and advised him to go and see it. '*Vous aurez un petit cabriolet, et cela sera fort agréable.*' 'Ah, milady,' replied de Roll, holding up his hands in a supplicatory posture: '*Je suis Suisse; j'ai tant vu de montagnes!*'"

The Baron was buried near Tunbridge, where he died. In a peaceful village churchyard, remote from Court and camp, and far from his native mountains, he lies forgotten. The inscription is fast fading upon his tomb:

Louis Robert Baron de Roll
Count of the Holy Roman Empire
Knight of the Military Order of St. Louis
Adjutant-General to
His Royal Highness Monsieur Comte d'Artois
Major-General and Colonel of De Roll's
Swiss Regiment in his Britannick Majesty's Service
Died at Bounds—Aug. 13—1813
Aged 64

"Why do we weep when those esteemed the best
Of human beings from their labours rest?
Why do we weep when freed from anguish here
They rise to Heaven eternal joys to share?
Is not the tear a selfish tear that flows
For friends beyond the reach of human woes?

¹ Letters of Lady Granville, October, 1811.

² Tom Moore's Diary, October, '33.

Such as the faithful, brave and good De Roll—
 Child of the land where Tell first saw the light,
 He loved Britannia and a Briton's right.
 Simple in heart, yet dignified in mind,
 Social in temper, as a husband kind;
 He stood unchanged at Fortune's bitter frown,
 That bore the royal house of Bourbon down;
 He cheered its exile, gained its just applause,
 And died at last a martyr to its cause;
 He died in bliss, for he had shown on earth
 All that can stamp a man a man of worth."

The Baron's regiment, the Regiment de Roll, distinguished itself in the British service by its fidelity, discipline and bravery, and was often complimented on its conduct in general orders by the commanders of the forces in which it served. For 20 years it was continuously employed in Mediterranean stations: at first in Sicily, when that island had to be defended against Murat, King of Naples. It took part in two expeditions to Egypt: Sir Ralph Abercrombie's successful one and the subsequent unfortunate one under General Fraser. In 1812 it was sent to Spain, and for its services there it was allowed to bear the word "Peninsula" on its colours and appointments.¹

Despatches in 1810, 1811 and 1812 mention a Baron Deroles fighting in Spain. The spelling is inaccurate, but this Deroles is probably a son of the old Baron.

"... Baron Deroles, a very active officer serving under General Lacy, made himself master of the College of Cervera, with a garrison of 350 men and a large magazine of wheat. He then marched to Puycerda, on the border of France, and fought two successful battles, and pushing his parties into the French territories he levied contributions at a considerable distance in Languedoc."² Etc., etc.

The Regiment de Roll was disbanded in 1816 after the close of the war. The men probably rejoined the Swiss Guards of Louis XVIII.

¹ Swiss Regiments à l'étranger. JOURNAL of the R.U.S.I., Vol. 41.

² Annual Register, 1811, p. 121.

THE PROCEDURE OF THE INFANTRY ATTACK.

A Synthesis from a Psychological Standpoint.

By CAPTAIN J. C. FULLER,

2nd Bn. Oxfordshire and Buckinghamshire Light Infantry.

The Elements of Warfare.

WHEN war has been reduced to its simplest elements we find two fundamental methods of waging it. Firstly, whilst at a distance from our adversary, by the use of missile weapons; secondly, when at close quarters to him, by the use of such weapons as are suitable for the shock.

To these weapons we may add a third, the protective shield, which, however, is not essential to the simplest elements of war. This shield, though no longer made of leather or steel,¹ reappears in modern warfare under the much more complex forms of cover from sight and cover by fire.

The close combination of these three weapons—missile, shock, and shield—constitutes what is called the tactics of war, and that nation which possesses, previous to the actual declaration of war, the highest knowledge of the tactics of the day, is the most likely to wage its war successfully.

Each of these two elementary methods of fighting has its own fundamental formation. That, of fighting at a distance, requires the straight or curved line in order to develop to the utmost the power of its missile weapons, and its action resembles that of a saw or file, which by constant motion wears down whatever resists it. That of fighting at close quarters requires the column or mass, not so much that this compact formation produces shock by weight, as shock by mobility of movement towards the point of impact, at which point the column splays outwards into a line of attack sufficiently thick to be

¹ The reappearance of the shield proper in modern warfare, now used by the artillery, is interesting, and may lead to a further reintroduction of this essentially defensive weapon.

self-sustaining. Its action somewhat resembles that of an axe, which by a speedy motion attempts to split in two whatever it strikes.¹

In ancient times, and even during quite recent periods, in fact up to the introduction of breech-loading rifles we find these two methods of fighting working apart and carried out by two distinct bodies of men—light troops and heavy troops. But, since the introduction of breech-loading firearms, we find, as regards the infantry, but one type of soldier in place of two, a soldier combining in his method of fighting the two elements of war conjoint yet as distinct as formerly in their application. Hence the intricate nature of the modern fire fight, to which is added a further complexity in the reintroduction of the shield under the form of cover by fire, cover by ground, and cover by darkness.

The abstruse tactics of the modern attack, however, may be, as all the simpler tactics of the past can be, definitely grounded on one unalterable rule: "The duty of the missile is, in all circumstances, and by every possible means, to facilitate or ward off the employment of the shock."

However superior may be the slaying power of the bullet and the shell over that of the bayonet and the sword, the former must ever be considered, in the shaping of our tactics, as mere forerunners, servants to the master blow, the fight at close quarters. True they carry out, as good servants should, ninety-nine hundredths of the work, but it is the act of decision, the shock, which crowns the victory, which is the goal of the whole fight; and, as such, it must be looked upon, all other means being considered as mere adjuncts and aids to its attainment. True to this ideal, it is the sword, and not the arrow, the bow or the sling which has become the emblem of power, of knighthood, of victory and of war.

¹ It is an error to imagine that the depth of the column accelerates its shock on impact. This might possibly take place when charging down a very steep incline—such as at the battle of Killiecrankie (1689)—but not otherwise; and a defender seldom selects the bottom of a ravine for his position of defence. The depth of a column only renders its transit towards the point of impact easy; on approaching this point it should decrease its depth until it offers a continuous line of resistance sufficiently deep to make good its own casualties. Cyrus, on hearing that the Egyptian phalanx was ranged a hundred deep said: "As to phalanxes, that are too deep to reach the enemy with their weapons, what injury can they possibly do to the enemy, or what service to their fellow-combatants? Those soldiers that are ranged a hundred in depth," added he, "I would rather choose to have ranged ten thousand in depth, for, by that means, we should engage with a still smaller number, and have the fewer to engage; but from the number with which I shall deepen our phalanx, I think that I shall render the whole efficient and self-supporting." (The *Cyropædia*, VI., 3. 22). Never were truer words spoken.

Having now arrived at the basis upon which all tactics of the attack pivot, let us turn to the attack itself, which, whatever may be its weapons, must, if it be a scientific fight, carry out the two elements of war in their natural sequence: the attack at a distance and the attack at close quarters.

Though these are the two essential phases of the fight, we may, for convenience sake, add two more—the approach and the pursuit. In all, we thus get four main acts in the drama of the attack,¹ each containing a varying number of scenes according to the time and the environments in which this great tragedy of human anger is acted, and in which it takes place. These four acts are:—

- (1) The Act of Approach.
- (2) The Act of Demoralization.
- (3) The Act of Decision.
- (4) The Act of Annihilation.

The Moral Forces.

Many moral forces surround the soldier on the battlefield, such as: religion, patriotism, *esprit de corps*, discipline, etc., etc., but these, as the fight proceeds, slowly or rapidly, according to their strength, evaporate under the heat of battle, for they are all artificial forces—based on education. One instinct alone asserts itself, an instinct common to all castes and creeds, whether cowardly or courageous—namely, the instinct of self-preservation, which, according to the spirit of the man, assumes one of two forms, and urges him in one of two directions. Firstly, it may assume the form of revenge, that desire to close with the enemy and so put an end to the fear of death, this urges an advance. Secondly, the form of terror, that desire to fly from the enemy, and so again to put an end to the fear of death, this urges a retreat, or more often the refusal to advance and to quit a position of seeming safety.

Which one of these two phases, the ruling moral force of the battlefield will assume is fortunately not, as might be thought, problematical, in fact, it may almost be predicted to a nicety; for the instinct of self-preservation will turn to fear in the morally weak, it will turn to revenge in the morally strong; and this moral strength is based in a few cases on natural courage, but in the majority, the mass of men, on the accumulated tendencies and impressions derived from, not only drill, discipline and training, but from the minutæ of the soldier's everyday life, from the moment he joins his regiment to the moment he lies down in the firing line. It is the strength of the unconsciously or subconsciously acquired habits, rather than the conscious acts due to direct education, which, when

¹ In order to simplify the following sections of this article, machine-guns have not been considered as taking part in the attack.

death surrounds the soldier, urge him forward in proportion as they have asserted their sway over him and have formed his spirit. It is, in fact, self-reliance and mutual confidence built upon habit, acquirement of knowledge, training and hard work, which urges the soldier forward in the midst of dangers. Physical strength is always an asset, yet it is not a necessity, neither are numbers an essential; but in the field, under that unrelenting storm of lead, which effaces thought and memory, paralyzes action and riots through control, minimizing everything save the horror of death, it will be that habit of knowing, subconsciously though it may be, that the mass will act as a unit, that no single man will leave a comrade in the lurch, that the utmost skill has been attained by all in peace, and is now being asserted by all in war, which will canalize the instinct of self-preservation and lead it into the channel of revenge. Troops thus fired may be beaten, but they cannot be conquered; they may be annihilated, but they cannot be subdued.

Paradoxical as it may seem, the less deadly warfare becomes, the more demoralizing it grows; for it is not the effect produced by the arms themselves on the bodies of the men, but the impressions which these arms make on their minds, which determine the conditions of modern warfare. The longer the range of the weapon used, the sooner will fire be opened, and the harder will it become to hit the mark, for the errors in sighting and aiming, which remain constant in the man, increase directly as the range of the weapon lengthens. Further, the longer the range and the harder it is to hit at these great distances, the further will the attackers have to advance under an incessant and increasing shower of bullets, each bullet carrying away with it as it moans overhead a little of the vitality of the firing line.

The Preliminary Reconnaissance.

Nothing is more demoralizing than to advance against an unseen foe, for an unseen foe is omnipresent, he is everywhere sensed without having been felt at all. Hesitation sets in, and hesitation may at any moment be transmuted from fear to panic.

Nothing is more encouraging to men than to advance against a foe who cannot see them but whom they can see or place. Therefore it is for this reason that before an attack commences, the most careful reconnaissance of the ground to be advanced over should, when practicable, take place. This reconnaissance should have for its object, firstly the discovery of the enemy's position, and secondly the lines of approach leading to it, in other words it should discover the true line of least resistance.

The Object of the Attack.

"To attack is to advance," therefore in the attack the infantry have but one means of action, namely, movement forward, firstly without fire, secondly with it.

The enemy holds a position A, we hold a position B, the intervening space C is either his or ours. If he can keep us at B it is potentially his; if we can advance towards A, C, little by little, becomes actually ours; until when B coincides with A, C becomes ours completely. If C is increased by A falling back then must B push on, always remembering that victory is never complete until B has cancelled A with the bayonet. This is the object of the attack.

I.—THE ACT OF APPROACH.

The advance from B to A is divided into two stages. The first is carried out by aid of the ground without rifle fire; the second by aid of the ground with rifle fire. During both artillery fire should aid the advance. The first stage is the approach proper.

The Passage of the Infantry through the Supporting Artillery.

The reconnaissance of the attack effected, and the advanced guard troops once engaged with the enemy's advanced posts, it will often be necessary to advance the attacking columns through the guns which are going to support them. Firstly, because both infantry and artillery will be seeking the same fire direction; secondly, for by so doing a closer co-operation in the attack may take place from the very start; and thirdly, so that the infantry may feel, throughout the attack from its very commencement, that the gunners know exactly where they are and what they are doing.

The passage of the infantry through their artillery is often a very difficult problem on account of the great frontage artillery take up in the attack, and it demands a careful agreement between the infantry and artillery commanders. In a hilly country the difficulties will not be so great; for, whilst artillery generally seeks commanding positions and avoids covered terrain, infantry seeking cover naturally directs its advance towards those depressions which are usually avoided by the guns. But on open ground these difficulties increase enormously. Firstly, there is the approach to the guns, perhaps under a heavy shrapnel fire; secondly, the passage through the guns; and nothing could be more desired by the hostile artillery, possibly until now under gun fire themselves, than to see their enemy's batteries silenced by crowds of infantry passing through them; thirdly, there is the deployment in front of our guns with a possible masking of their fire for the first four or five hundred yards. The solution of this problem is one for the artillery, but it seems to be based on the following considerations:—

(1) The artillery should discover which of the hostile batteries could bring the greatest fire to bear on the infantry about

to advance, and then direct the infantry passage through such part of the artillery line as is least able to silence or distract these hostile batteries.

(2) When this is impossible, the infantry passage should take place close to those positions where the guns are posted in rear of the crest, so that directly the infantry have passed the guns no masking of fire may take place.

(3) The passage of the infantry through the guns must not, in spite of the enemy's fire, take place in deployed lines, otherwise the guns may be condemned to a long silence, and, unsupported by their fire, the infantry itself may be driven back out of action and the guns permanently silenced. As regards the formation infantry should adopt Colonel Balck writes: "The column of squads would be a suitable formation in which two battalions of infantry could simultaneously pass through the line of guns approximately within the space occupied by one battery. These battalions should then at once deploy, executing front into line towards their respective outer flanks."¹

Formations under Hostile Artillery Fire.

The passage through the supporting artillery successfully accomplished, the next step is to pass over that zone of ground swept by the hostile artillery fire alone, which is frequently 4,000 yards and more in depth. During this period of the approach the men cannot rely on their rifles, they must, therefore, rely on the ground; their advance, consequently, becomes a question of formation—formation against fire, and not formation for the delivery of fire.

Now the formation against fire should have for its object the following characteristics:—

- (1) Invisibility of its component parts.
- (2) Rapidity of movement when exposed to fire.
- (3) Irregularity of front to accentuate the difficulties of distribution of fire.
- (4) Unfavourableness to the effect of the cone of bullets falling from the shell.

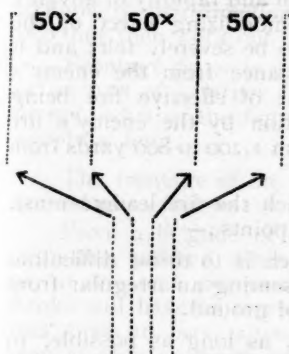
In a lecture delivered at the Royal Artillery Institution in December, 1908, entitled "Infantry Formation in the Attack; from an Artilleryman's point of view," Major C. E. D. Budworth, R.A., after exhaustive experiments, lays down the following:—

- (1) Units should not exceed a section in size.
- (2) In line formations three yards interval should be the minimum extension.
- (3) Successive lines should be at least 200 yards distant.
- (4) Individual parts of one line should be in echelon.

¹ Tactics, Colonel Balck. Vol. I., p. 317.

- (5) Small columns should present an irregular front.
- (6) The disadvantage of small columns is their visibility.
- (7) Formations in single file are difficult to pick up.
- (8) The diamond formation appears to be as good as any and facilitates control.

The secret, however, of this period of the advance is rapidity of movement; and the infantry must realize that the best protection against artillery fire is constant motion forward of small bodies in irregular rushes and at wide extensions. Their leaders, however, must not forget that control must nevertheless be maintained, and, taking all in all, the most suitable formation



to combine rapidity and control appears to be an advance by sections in fours, sections being on an irregular front. These advance as compact sections as long as they are under cover, and immediately expand to four single files at about 50 paces interval on coming under shrapnel fire. Directly dead ground is once more gained, each section closes inwards and adopts its normal formation. (This formation is also a suitable one against distant rifle fire, for by advancing in file, the men are less liable to return this fire than if they were advancing in line).

The Approach under Long-Range Rifle Fire.

As the object of the attackers is to advance, so the object of the defenders is either to prevent the advance altogether, or more correctly, so to use up the enemy's "Will to advance," that when the attackers have arrived at effective or close range they will have become so irresolute that a counter-attack on the part of the defenders will have every prospect of repulsing them. Further, whilst the attackers, every step they take forward, separate themselves from their base of supply, the defenders not moving away from theirs have an almost inexhaustible supply of ammunition at hand; the result being, that, whilst the attackers must strictly economize the expenditure of their ammunition, the defenders are in no way so handicapped, and may indulge in distant and long-range fire indiscriminately, and will most probably do so if they know themselves to be greatly inferior in numbers to the attackers, and for the following reasons:—

- (1) To commence the demoralization of the attackers at the earliest moment.

- (2) To force the attackers to extend and thereby lose rapidity of advance and control.
- (3) To force the extended attackers to take to cover, and so induce them to return the fire.

Should this succeed the defenders long-range fire will be well justified, that is to say if their object is to keep the enemy at a distance and not to defeat him at close quarters; for it is a well-known fact, that if troops take to cover at distant ranges and open a long-range fire, their advance will speedily come to a standstill, for this fire can scarcely ever be effective. "Once the fire is opened," writes Colonel Balck, "... we do not want to injure the enemy—we want to annihilate him." This being so, compactness of formation and rapidity of advance must still be maintained, for the demoralizing effect of the enemy's rifle fire has not yet begun to be severely felt; and it must be continued until such a distance from the enemy's position is arrived at, as will permit of effective fire being opened, and the growing demoralization by the enemy's fire subdued. This distance is usually from 1,200 to 800 yards from the enemy's position.

During this period of the approach the fire leaders must, therefore, bear in mind the following points:—

- (1) That the secret of the approach is to throw difficulties in the way of the enemy's fire by presenting an irregular front to it, and by making the utmost use of ground.

- (2) That the advance should be, as long as possible, in undeployed formations under cover of the ground. Advancing in long lines is unfavourable to cohesion, and is conducive to the premature opening of fire. Man by man advances are to be avoided, for they take up much time, and by drawing out the attack cause exhaustion of the supporting artillery's ammunition; and further, the sensation of isolation by men moving forward separately causes a detrimental moral effect on the whole firing line.

- (3) That the opening of fire always retards the advance. That the opening of a parsimonious long-range fire is quite useless, as it invariably slows down the advance without injury to the enemy. The approach, therefore, must be continued until it is impossible, without commencing to demoralize the enemy, to advance further.

The approach formations should, therefore, consist, as Colonel de Grandmaison writes,¹ "of autonomous groups of men following the features of the ground and the circumstances of the fight. Their movements being co-ordinated, not by distances and intervals, but by a general direction known to all. Each of these mobile groups should make the utmost use of

¹ *Dressage de l'Infanterie en vue du Combat Offensif*, p. 54.

the ground, advancing as compactly as possible and only disintegrating itself into 'human dust' at such moments as it advances under fire from cover to cover."

Thus the act of approach continues firstly in large groups, then in smaller, exposing the enemy's tricks, stratagems and advanced posts, until his true line of resistance is defined. From here commences that second act, the act of demoralization, in which extent of frontage and strength in depth play so important a part.

Frontage and Distribution in Depth.

In launching an attack, the first thing the attackers require to know is their direction, the second their frontage; from these two they then work out their distributions in depth.

Frontage depends on whether the battalion is acting alone or as part of a larger force; whether its flanks are protected or not; whether the fighting is to be decisive or containing, or merely a feint.

The frontage of an infantry division in the attack may be arrived at as follows:—

From a brigade of 4,000 men deduct 25 per cent. for casualties suffered during the advance, this will leave 3,000, or, at one man per yard, a frontage of 3,000 yards. But as flanks will have to receive special protection, we must reduce this 3,000 to, say, 2,500. Beyond the limit of one yard per man at decisive range, additional men are required to carry the attack home. Once fire supremacy has been established it has been calculated that it will usually require three men per yard. Therefore, of our 2,500 men 800 will be required to establish fire superiority, and 1,700 to produce the necessary fire and moral effect to push it home.

This being true of a brigade, a division, employing two brigades in the firing line and one in reserve, would have a frontage of about a mile.

Distribution in depth depends on the frontage, the greater the frontage the less the depth, and *vice versa*. Broad combat formations have great initial energy, but are liable to rapid exhaustion; whilst distribution in depth renders control of the fight possible by those outside the demoralizing zone of continuous rifle fire. "Distribution in depth makes it possible to initiate the combat with a part of the force and to get information of the situation; to fight the action with another part of the force in accordance with this information; and, finally, to bring about the decision and reap the fruits of that decision with the third part."¹

¹ Tactics, Colonel Balck. Vol. I., p. 225.

II. THE ACT OF DEMORALIZATION.

The act of approach, or the act of advancing from about 6,000 yards off to about 1,000 yards from the enemy's position, is simplicity itself compared to the act of demoralization which carries on this advance from 1,000 yards to within 100 or 150 yards of the enemy's position where the act of decision begins. The reason for this is that the approach is a simple act, an act to reduce losses, whilst the act of demoralization is a complex act, an act to inflict losses as well as to avoid them. The first only understands advance by cover, the second advance by cover and by fire; and the result of this is, that whilst the first can be legislated for on more or less fixed lines, the second, being of a dual nature, is impossible to regulate by any normal system, for the simple reason that no one can tell, save during the fight itself, whether it is cover or fire which the men should aim at in order to facilitate their advance. To understand the act of demoralization it is, therefore, first necessary to understand the effect of cover and fire.

Fire Effect and Cover during the Attack.¹

When men once enter the zone of terror and death rules no longer apply, but certain leading principles may be extracted from history. These are :—

- (1) The impossibility of advancing over open ground swept by fire, without obtaining superiority over that fire.
- (2) The insurmountable difficulties of controlling the attack; the progress of which rests with the section and squad commanders, and often with the men themselves.
- (3) The attraction of cover and the difficulty of moving troops from one position to another.
- (4) The demoralizing effect of fire and exhaustion by continuous shock and nervous strain.

(1) FIRE SUPERIORITY.—Once fire is opened, fire superiority must be aimed at, and the maintenance of this fire superiority coupled with the gaining of ground, constitutes the problem of this stage of the attack. The number of rifles in the firing line should from the start be appreciably superior to those of the defenders, and every fire leader must aim at keeping his troops in hand, discovering the enemy and bringing an effective fire to bear upon him.

It is the fire of the men lying down which renders it possible for the others to advance. The theoretical solution of the problem, therefore, consists in advancing at a time only such a number of men as will permit of the fire of those left lying

¹ See *Dressage de l'Infanterie en vue du Combat Offensif*, by Colonel de Grandmaison, from which much of the following section is taken.

down continuing to dominate the fire of the defenders. In practice this nicety of division is impossible, and each fraction of the line must instinctively seize the moment to advance when its advance is rendered possible by conditions of fire. When this instinct weakens, and the line commences to lag through loss of moral, then should artillery intervene and give the necessary moral and physical support; but when this lagging takes place through loss of numbers, and consequently of fire superiority, then should supports be rushed into the firing line and a heavy covering fire from the guns be opened.

Whatever may be the means employed to gain superiority of fire, the attack very rapidly exhausts the vitality of the firing line, which must be revitalized by the throwing in of these supports. These do not push the firing line on by the impact of their arrival, but, by increasing the number of rifles, they make it possible for the firing line to reassert its supremacy of fire.

(2) LOSS OF CONTROL.—The loss of control during the fight rapidly takes place after entering effective range. In the year 1800 men could advance in a shoulder to shoulder formation almost up to the enemy's position before the fire of the defender produced a demoralizing effect; in 1870 the loss of control commenced at about 400 or 500 yards away, now from 900 to 1,000 yards. Up to 1,000 yards, that is during the final stage of the approach, discipline still holds the men together, but once they begin to suffer losses revenge takes the place of discipline, and should in highly-trained and courageous troops increase until at close ranges their onset becomes almost fanatical. When a mass of men is stirred by a common sentiment, it is a well-known fact that this mass assumes an individuality of its own; and as the sentiment grows, acts more and more as if it were an individual in place of a mass of individuals, so much so, that though each individual does not feel whether he is gaining or losing fire superiority, the mass does; and as the defenders' fire is beaten more and more down, intuitively the elation of success spreads, until instinctively, or fired by some individual act of heroism, the whole line rises and charges home with the bayonet.

Control we therefore see passes little by little into the hands of the men themselves. The company officers and even the section and squad leaders have eventually to abandon any attempt to maintain it save through their own personal example. The battalion commander can regulate it as long as he holds reserves in hand, but of all the controlling factors of the fight the greatest is, after that of the nature of the men themselves, the power which the artillery has in influencing and stimulating the advance.

(3) COVER AND CROWDING.—The difficulty of moving men under fire is one which cannot be neglected, for all cover attracts men as a magnet attracts steel filings; and when no cover exists men are instinctively attracted towards each other.

As regards the distances of advance from cover to cover these cannot be regulated by theory, but depend on the condition of the enemy's fire, the nature of the ground and the vigour and moral of the men.

(4) **THE DEMORALIZING EFFECT OF FIRE.**—The absence of pursuit in modern battles is due to the impossibility of asking a new effort from "used" troops. It is not the loss which demoralizes but the fear of loss. The first cause is the invisibility of the enemy and that feeling of uselessness in opening fire against a void. It is the agony of impotence of being unable to return blow for blow.

The second cause is the continuity of the danger. In former days men fought all day, suffered enormous losses, and yet ultimately were able to pursue. And why? Because the fight was not continuous, but intermittent. Now there is no retiring from the zone of death, for, once it has been entered, a retreat from it, save under cover of darkness, would be suicidal. General Kuropatkin well describes the stupor produced by fire. He writes:

"Troops do not retreat because they are unable to maintain themselves owing to their numerical inferiority, but because they fear the losses which they would suffer if they advanced further. The determination to conquer has been overcome by the desire to live. The confusion of impression increases with the size of the force. Taken individually, the men might behave quite sensibly, but in a crowd they are claimed either by insanity or lethargy. The activity of the mind is completely replaced by imagination, everything is believed; nothing is appraised; exaggeration prevails everywhere; a precipitation produces unthought-of results. When the men come to their senses, it is as if they were awakened from a stupor; they are unable to understand how fear could have induced them to do the very opposite from that which would, most surely, have saved them from destruction."¹

The Advance under Fire.

Having reviewed the effect of fire on the spirit of the attack, we will now turn and see how it is possible, without entire loss of control and without demoralization, to maintain superiority of fire and yet advance against the fire of a determined enemy. This question is the all-important one of the fire fight.

From the earliest period of the infantry approach, the captains of the various companies which are to form the firing line, will cover their front with scouts. The duty of these scouts is threefold: firstly, to protect the company against surprise, that is, to lay bare the enemy's advanced posts, patrols and ambushes, and also to attract his opening fire away from the columns

¹ Critical Reminiscences of the Russo-Turkish War. Vol. I., p. 150.

behind them; secondly, to discover the enemy's positions; and thirdly, to discover those avenues of approach which will best lead to the final occupation of the same. The scouts are reconnoiters, and as such they should be used, not only prior to the attack being launched, but during the launching and execution of the attack as well. They should be picked and trained men, and should not, until the final stages of the fire fight, be absorbed by the firing line for purely fire purposes. Their duty is to clear the way, and their duty also is on no account to mask the fire of the firing line. When possible, as the attack proceeds, they should edge away to the flanks and watch for local counter attacks.

As the object of the attack is to close with the bayonet, and as its leading principle is rapidity, advances should always be made with the greatest numbers possible and over the greatest distances compatible with the maintenance of fire superiority. If this superiority be high, large groups of men should be pushed forward; if low, small ones. If superiority be on the wane, supports must be absorbed by the firing line; but if superiority be lost after all the supports and reserves have joined the firing line, there remains but one thing to do, namely, to entrench.

Following this rule, we find three main advance formations.¹ One, by sections; two, by squads; three, by groups of from six to four men, dwindling down sometimes to rushes by one or two men at a time.

The advance of complete sections and squads are very similar. The fire leader cautions his command that he is about to advance, and, if possible, points out the next fire position; he then rises, every man springing up with him, and at top speed they all rush forward.

When groups advance the procedure is slightly different. The squad commander calls out to four or six men that they are to push on to a certain point, and as they attain it, he sends forward another group, and then another, bringing up the last group himself. When it is possible, the first group advanced should mark the left, centre, or right of the new position, for if this can be done control is better maintained.

When an advance is about to take place there must be no shouting or loss of fire. When the new cover position is gained the men should throw themselves down just behind it, recover their breath, and then commence to fire. The habit of taking up their position immediately behind cover is a very important one,¹ for by doing so, fire can be controlled by bringing the men behind the cover into a position from which they cannot shoot. It must be remembered that on the battlefield the difficulty is not in getting the men to shoot, they do this by instinct, for

¹ See *Dressage de l'Infanterie en vue du Combat Offensif*.

shooting relieves their feelings, but of getting the men to cease shooting.

The guiding principles of this stage of the fire fight are :—

- (1) One part of the line can only advance under the fire of another part lying down.
- (2) The covering fire of that part lying down must be strong enough to dominate the enemy's fire.
- (3) The fire leaders must watch each other's actions, the one rushing forward directly the other opens fire.
- (4) To prevent squads and groups masking each other's fire in the advance, the firing line should be morcelated and not continuous.

Towards the latter stages of the fire fight, at about 500 or 600 yards from the enemy's position, the moral effect of the defender's fire, if sustained, is so great, is so magnetic, that mutual co-operation between even groups will come to an end, and these will advance as they can and how they can. Control by fire leaders will be lost, and advance will only be maintained against a determined defender by the control which the supporting artillery fire can exert over the nerves of the men in the firing line. This control is twofold. One, by beating down the hostile infantry fire, to maintain, or gain, the supremacy of fire of their own firing line; two, by the noise, *éclat*, of their shells so to stimulate, or suggest, the act of the assault, that the firing line pushing forward will at length suddenly rise, no longer the firing line, but the assaulting line, and culminate the battle with the bayonet.

Reinforcing.

The question of reinforcing the firing line is one of the utmost importance, for the supports and reserves are to the firing line what the blood is to the body. To reinforce too quickly means rapid exhaustion of the reinforcements, and a speedy standstill of the fight; to reinforce too slowly means that the firing line will be so "used up" by the time the reinforcements arrive, that they will not bring into it sufficient strength to revitalize it. The problem before the commander is to get the utmost work, compatible with the maintenance of its will to advance, out of the firing line, before strengthening it with supports and reserves. He must remember that the supports are not intended to push the firing line forward, but to replenish it with firers and regain fire superiority the moment the firing line is beginning to lose it, and not a moment before.

Until the supports are required they should be kept well in hand, in as compact a formation as is compatible with their safety. The great difficulty will be to keep them in hand close to the firing line without their becoming demoralized through loss. They, therefore, must make every use of cover possible, more from a point of view of protection than from that of fire effect.

Whenever the ground enables the supports to reorganize, their reorganization should at once take place, also should it offer them the chance of opening covering fire, this must at once be opened. But when the ground offers insufficient cover, and demoralization is seizing upon the supports, there is only one thing to do, to rush them into the firing line, open fire and moralize them once more by the noise and flashes of their rifles.

The great danger to supporting troops is the unaimed fire of the defender, which, sweeping over the heads of the firing line, often decimates the supporting troops behind it. At the battle of Worth¹ a German cavalry regiment, 2,700 yards behind the firing line suffered heavily from this fire. This unaimed fire may become so demoralizing, that the supports, not being able to stimulate their advance by a return of fire, in the same manner as the firing line can, may eventually be driven to seek cover from which they will not rise.

This bringing of the reserves to a standstill behind their firing line deserves the most careful consideration; for, if reserves suffer appreciably at 1,400 yards from the enemy's position, it will often happen that the ground further on, between 1,000 to 600 yards from the enemy's position, will offer them so little protection, that, unless they are absorbed in the firing line, at about the 1,000 yards point, they will never join their firing line at all. This will mean that at the most critical stage of the fire fight the firing line will be left without further reinforcements. In such cases the onus of maintaining the fire supremacy, notwithstanding the losses sustained by the firing line, which losses naturally reduce this supremacy, will fall on the artillery, which must maintain a rapid and almost continuous shell fire to give the requisite material and moral support. The idea that the last reserves will carry forward the firing line to the assault is a fictitious one, where fire supremacy hangs in the balance. When supremacy of fire is already in the hands of the firing line they may well do so, for under these circumstances the slightest impulse may prove sufficient; but where this supremacy is weak, these reserves will not be carried across the extensive beaten zone which lies between them and their firing line, and it will be the artillery, and the artillery alone, which will be in a position to render the necessary support to both the firing line and the reserves, the one to continue and maintain the fire fight, the other to advance and join in it.

Ground and its Effect on Fire.

Before we can complete these considerations on reinforcing, we must add to them the effect which ground plays on the whole course of the fire fight.

Usually speaking there are three types of ground—level, convex, and concave, or a combination of these three—and two

¹ See Recent Publications of Military Interest, No. 14, p. 232.

types of fire fight: One, the fire attack which is launched in maximum, or in almost maximum strength, immediately effective range is entered, and which is scarcely, if at all, fed by supports, and which, therefore, must possess sufficient inherent vitality to withstand losses and carry itself to the enemy's position. This is the German method. Two, the fire attack which is launched in minimum strength, and which is followed, according to the condition of the ground, by supports echeloned back in depth, which revitalize it, as the battle proceeds, carrying it steadily on to the position of assault. This is the English and French method.

The first type is the battle of "Brute Force," the second of "Economy of Force." Both may be right and both may be wrong, for both are controlled by the three positive factors which shape the attack: the numbers and fire of the opposing forces, the moral of the opposing forces, the formation of the ground.

From the effect of the first two of these factors on the fire fight we deduce the following:—

(1) When the attackers are overwhelmingly strong in numbers the maximum firing line should be employed, so that it may, so to say, by sheer weight of fire, shoot the defenders out of their position. The defenders being weak, and their fire consequently unlikely to withstand a sudden and heavy opposition, it is for the attackers under these circumstances to bring to bear the maximum fire, for under this maximum fire will they be more likely to *rapidly* advance than they would be under a well-fed minimum fire. It must never be forgotten that fire itself is no object in the attack; the object being the enemy's position and the advance to it, but that the means of obtaining this advance is through the fire of the men's rifles and of the guns of the artillery.

(2) When the moral of the defenders is weak, then again, for the same reasons as above, the maximum firing line must be employed. But, if the moral of the attackers is weak, even though they be overwhelmingly strong in numbers, the fire attack must be of the minimum type; for when, in an attack, the moral of the attackers is low, the likelihood of panic and defeat increases directly as the numbers of the attackers. That is to say, the more the attackers resemble a mob, the more nervous do they become, for the contagion of fear spreads more quickly among crowds than among isolated individuals.

The third factor—ground—needs very special and careful consideration, for though the numbers and the moral, of both the attackers and defenders, may often be staple, or nearly so, it is seldom that, from the point of view of the fire fight, one piece of ground even remotely resembles another, for the slightest undulation may cause the victory of one side and the defeat of the other.

To leave no points unconsidered, it will here be necessary to descend to theoretical considerations before ascending to practical facts.

The "beaten zone" of a cone of fire depends upon the skill of the firers and the nature of the ground. Theoretically, on a dead-level field, it varies inversely as to the distance, that is to say, as the range increases, the angle of descent becoming more acute, the beaten zone becomes narrower and narrower until at extreme range it should be but a few yards deep. Practically, under peace conditions, it is, however, found that though the beaten zone decreases in depth up to 1,500 yards, above this range, on account of the faults in the firer, the rifle and the ammunition, as well as the conditions of the atmosphere, it increases in place of decreasing, until at maximum range the beaten zone, in place of being a few yards deep, covers a very extensive area of ground.

It must not be forgotten that these are facts drawn from fire under peace conditions, but it also must not be forgotten that the higher the moral and training of the defenders, the more will their fire approximate to peace fire. In fact, the whole object of peace training is to reproduce peace theories under war conditions during war itself.

Now, applying these deductions to the three types of ground, we find that :—

(1) On level ground, at distant range, the beaten zone is extremely broad and wide; at long range it decreases as the range decreases; at effective range it increases as the range decreases; and at close range it may be considered as a continuous dangerous zone.

(2) On concave ground, or ground which falls and rises with reference to the line of sight, the beaten zone decreases in proportion as the ground falls, till when it cuts the line of trajectories at an angle of 90° the minimum beaten zone is obtained.

(3) On convex ground, or ground which rises and then falls with reference to the line of sight, the beaten zone increases in depth in proportion as the line of trajectories assumes a curve parallel to the surface of the ground itself. Should, however, the ground fall at an acute angle to the line of trajectories, leaving a zone of ground unswept by bullets between the firer and the summit of the convex slope, or the summit and the level of the ground behind it, a zone of defilade fire will be formed.

These considerations duly appreciated, we are now enabled, theoretically at least, to select the correct position for the supports and reserves with reference to the position of the firing line, the beaten zone, and the avoidance of casualties.

(1) On level ground the supports must follow at a considerable distance from the firing line, this distance diminishing up to 1,500 yards from the enemy's position, and increasing from 1,500 yards to 800 yards.

(2) On convex ground supports must follow at a greater distance still, unless extensive defilade zones exist.

(3) On concave ground the supports may reduce the distance between themselves and their firing line according to the steepness of the concavity.

Now, it must be remembered that though the avoidance of casualties in the supports is important, their ultimate object is to join the firing line. This being so, we arrive at two main theoretical deductions:

(1) On level ground the supports and reserves should be able to get closer and closer to their firing line up to within 1,500 yards of the enemy's position; but, as from here, the beaten zone increases as the range decreases, a very strong firing line, of the maximum fire type, should be formed on entering the range of effective fire, otherwise difficulties may be experienced in reinforcing the firing line later on.

(2) On undulating ground (convex and concave combined), when at a distance from the enemy's position, the supports must keep well in rear of their firing line to avoid the increased beaten zone; but as the range decreases they should approach it closer and closer, so that they may, when possible, occupy immediately in rear of the firing line the zone of defilade fire. From these considerations, the power of the bullet, the increase in the cone of fire and the formation of the ground, we conclude that, at long and distant ranges, ranges at which superiority of fire cannot be obtained, a thin firing line will be sufficient to draw the defender's fire away from the supports and reserves, which, on account of the unevennesses of the ground, will be able to rush from cover to cover, coming closer and closer to the firing line without heavy losses on the convex areas of ground immediately in rear of the firing line, and so ultimately be in a position to rapidly reinforce it. On such ground then, namely, undulating, the minimum firing line formation should be employed.

This latter deduction raises further a very important point, namely, the positions, during the advance, which the firing line should take up, not with reference to the enemy's fire, but with reference to the advance and the covering fire of its own supports. Certainly the enemy's fire is the first consideration of the attacking firing line, but when, without increasing the effect of the defender's fire, it is possible to aid the supports, this aid should never be neglected, for by aiding its supports the firing line ultimately aids itself.

Therefore, during the advance, when it is possible for the firing line to take up its position in front of a crest line and not on it (also it must not be forgotten that the crest lines are often the ranging points of the enemy), by so doing it will not only reduce the beaten zone for its supports, but enable them by their occupation of the crest line to deliver a covering fire. As the fire of the firing line will attract the fire of the defenders, the supports here will be in a much safer position than if this position

had been occupied by the firing line, and they themselves forced to halt further back in a position from where their fire could not have been employed to cover their firing line or to relieve the moral tension of their advance through the zone of unaimed fire. The natural instinct of the firing line is to halt immediately in rear of the crest line and shoot over it, but this instinct should be checked, for if it be allowed control, the following risks will be run :—

- (1) An increase of casualties in the firing line :
 - (a) Through these crest points having been ranged by the defenders.
 - (b) Through loss of covering fire from their supports.
- (2) An increase of casualties in the supports :
 - (a) Through an increase of the beaten zone.
 - (b) Through a decrease of moral.

From these points we ultimately arrive at two practical considerations of the first importance.

(1) That, when the defender's cone of fire is much dispersed, the firing line, once effective fire is opened, should be rapidly thickened, and the utmost use of fire made to demoralize him. As the firing line will not be so well able to appreciate the extent of this unaimed fire as the supports, who directly come under it, it will be for the supports to seize the initiative and push on to the firing line, and by joining it bring about, as rapidly as possible, the act of decision. This unaimed fire should tell the supports that the enemy is in a state of demoralization, and therefore that he is not to be feared, and the less fear an opponent instils the more rapidly should he be attacked. This, therefore, is the occasion upon which the maximum firing line should be employed, and the attack by "brute force" carried out.

(2) That, when the enemy's cone of fire is concentrated, a thin firing line should be used, not only to reduce casualties within itself, but also to reduce casualties within the supports and reserves, which should follow in shallow formations behind it. This, therefore, is the occasion upon which the minimum firing line should be employed, and the attack by "economy of force" methodically executed.

III. THE ACT OF DECISION.

The act of decision, or the assault, is the culminating act of the attack, the summit of the battle, in which the missile weapons give way to those of the shock.

The act of decision is a simple act, for the attackers have now but one object—the splitting asunder of the demoralized line of defence—and here, at this period of the attack, it is more than ever a matter of the man and his instinct of self-preservation which are the controllers of the final rush. The assault cannot be taught, for it can alone be experienced. It is the final expression of all those pent-up forces, good and averse,

which have played upon the men, not only from the commencement of the battle to this, its climax, but from the moment the men became soldiers. The firing line, through the tension of the collective idea, from a fluidic state suddenly coagulates into the line of assault, and finds the ultimate expression of the battle in the most violent of physical acts, the hand to hand struggle at close quarters. This assault has no rules, and it possesses but one principle, namely, Forward! To halt in the middle of the assault would mean disaster, to fall back suicide; for, as the firing line becomes the assaulting line, fire supremacy is lost; it is now no longer a question of the bullet, but of the bayonet; and as the steady advance of the acts of approach and demoralization shook the defender's moral, this act, this *coup de marteau*, should utterly disperse it, and deliver him and his mob, without direction or dynamic force, to the butchery of the pursuit.

The time of the assault is the time the attackers instinctively feel that by rushing forward with the bayonet they will risk less than by continuing their now all but motionless attack.

The formation of the assault is the self-supporting line, a formation which will, when all casualties have been deducted, leave at least the closest shoulder to shoulder formation as the formation of the final attack. "Columns," writes Napier, "are the soul of military operations; in them is the victory, and in them is safety to be found after a defeat. *The secret consists in knowing when and where to extend the front.*" This is the secret of the assault. We no longer see on the modern battlefield the advance of the heavy phalanx in compact ranks sufficiently deep to give the whole a self-sustaining battle front; but in place we see an elastic column of firing line supports and reserves consisting of as many ranks as will render it self-supporting. The difference being that whilst the ranks of the phalanx were close behind each other, those of the present-day column are several hundred yards apart. The phalanx, on attaining the shock, calculated to bring every spear into action, and no more. Now the assaulting line should do the same with its bayonets. The line should be thick enough to cause a loss of that feeling of isolation and individuality so patent to the skirmisher, and to give it a collective impulse so essential to the assault, that electric contact of shoulder to shoulder, which flashes success from heart to heart. More than this is not required, for when once the bayonet wall, like the old shield wall of the Saxons, has been formed, the massing of men behind it, can do nought else save add terror to a beaten foe. To one who may still be victorious these superfluous attackers, who would be better employed in opening a covering fire, will act simply as a stop butt to his bullets.

There is but one certain and true type of assault, the assault which instinctively follows the gaining of a rapidly increasing superiority of fire at the closest ranges. This assault is the forward movement of the whole firing line which rises as one man.

There are, however, three subsidiary types, all dangerous because they admit of reason governing and controlling this purely instinctive movement towards self-preservation.

Firstly, the assault of desperation, or the forward rush of a firing line, which can only just hold the defender's fire without gaining a marked superiority over it, and whose position has, therefore, become intolerable. It is the gambler's last throw, and may spell ruin or victory.

Secondly, the morcelated assault, or the forward movement of sections of the firing line under fire of other sections left lying down. This is a dual and therefore a complex act, and it is radically faulty. If covering fire is necessary, then it must come from the rear or from the flanks and not from the assaulting line, for if it does a multitude of flanks will be offered to the enemy's counter attacks. The Achilles' heel of the assaulting line, just as it was of the phalanx and the legion, is its flanks, therefore the fewer flanks an assaulting line possesses the less likely is it to be driven back in detail, and the less likely is it to lack that collective enthusiasm and strength which is so characteristic of the concentrated line as battle front.

Thirdly, the initiation of the assault by the reserves, based on the erroneous idea that a firing line can be moved forward by impact, which it can not, for it can only be moved forward by superiority of fire or by desperation. True, the sudden approach of the reserves may so frighten the defenders that they hastily leave their entrenchments, but that the arrival of these reserves will carry the firing line forward in a simultaneous advance is truly a mythical idea. Firstly, the firing line will be so intently occupied that no advance of the reserves will be noticed; and secondly, the reserves coming under a demoralizing fire will not pass through their firing line, but on reaching it will throw themselves down and join it. Then after a rapid burst of fire, likely enough will the whole advance, but not till then.

IV. THE ACT OF ANNIHILATION.

The act of annihilation, or the pursuit, is not, properly speaking, part of the attack at all. It is a new attack; for, the hand to hand struggle, directly it takes place, at once re-establishes individual effort in place of the collective movement of the last advance. Fighting becomes of a purely primitive nature, each man selecting his adversary and protecting himself with little or no thought for his neighbour. For a pursuit, the ranks must be re-formed and the columns re-established, so as to facilitate control and rapidity of advance, otherwise the advancing rabble of individual fighters will soon be brought to a standstill.

In former days the act of demoralization was extremely short and the act of decision long, so much so that, in the days when no quarter was asked or given, the assault and the pursuit were but the two halves of one act. Moreover, cavalry often took part in the act of decision, and then, when this act was successful, greatly facilitated an immediate pursuit.

Now, the reverse takes place, the act of demoralization is extremely long, and that of decision momentary; and this means a far greater exhaustion of the nervous powers of the attackers, and therefore a distinct aversion to push on when once the object of the attack has been attained.

Besides this nervous exhaustion, there are other reasons which now hinder a rapid pursuit, and these are:—That the bayonet wall, the thick self-sustaining line of assault, is a bad formation for a rapid pursuit, it must be closed into column before an advance can be made. That the enemy in force seldom awaits the assault. That victory and elation are almost as disorganizing as defeat and dejection. And, finally, that cavalry can no longer take part in the act of decision, and that the long range of the modern rifle is conducive to the victorious attackers pursuing the retiring defenders with their fire in place of with their bayonets. The assault successful, those of the defenders who cannot escape speedily surrender, danger rapidly subsides, and with its subsidence the sense of self-preservation, under the guise of anger and revenge, which until now has exerted such tremendous motive force, disappears.

We therefore find that the modern pursuit requires a new attack carried out by fresh troops, that is, by troops that have not become "used up" through prolonged exposure to fire. Further, that these pursuits will seldom be annihilating in their effect, even if supported by masses of fresh cavalry, unless the grand tactics of the battle have been so planned as to facilitate these last acts. In great enveloping movements, the defenders are almost certain to slip away from the attacking wings as they close in, and these wings clinching will automatically put an end to any further advance, as was the case at Königgrätz. In converging movements from divergent bases, in which one halt holds the defender's front by a main attack, and the other rolls up the defender's strategical wing by a decisive attack, pursuits will be possible, as was the case after Waterloo.

To annihilate the enemy is the first object of strategy, and, therefore, the question of a successful pursuit in the reasoning out of the grand tactics of the campaign or battle should never be forgotten. In war, as a whole, it is not sufficient to advance, to win superiority of fire, to carry position after position with the bayonet, for all these things did Napoleon do on his victorious march to Moscow, which is, perhaps, the greatest military disaster in history. One thing alone is sufficient—the utter destruction of the enemy's power of resistance—and had Napoleon been able to do this in 1812, had he been able at Borodino utterly to crush the forces of the Czar, Leipzig and Waterloo would not now illumine the pages of history.

The immediate attackers will not carry out the pursuit, this at least we should well remember, for in this last act, as in the preceding three, we must not forget that we have soldiers behind us and not heroes, and that the fight is a complex moral action and not a mechanical and soulless exploit.

NAPOLEON'S CHIEFS OF THE STAFF.

By CAPTAIN A. VICKERS, Indian Army.

WHEN the Emperor Napoleon abdicated in 1814, most of his veteran marshals transferred their allegiance to the White Standard of Louis XVIII. Among these turncoats was Marshal Alexandre Berthier, Prince of Wagram. Tired of war and longing for the enjoyment of his well-earned wealth and position, he failed to rejoin his master a year later, when the faithful soldiery had reclaimed their "Little Corporal" as Emperor of France once more.

Napoleon, the child of Fortune, was so accustomed to success, and so confident in himself, that he became blind to the possibilities of failure. So excellent had been the work of his Chief of the Staff, Berthier, that the smart promulgation of his orders and the smooth running of his plans had become assured. Once his able lieutenant had received his instructions, the Emperor was able to rest assured that his orders would be carried out with skill.

A glance over the pages of Berthier's history will help us to realize how much Napoleon depended upon him. How, by working always together, they well understood each other. How Berthier must have become so intimate with the working of the Emperor's great mind that he could issue the orders of his master in a manner which would ensure obedience. He became so accomplished in the duties of the General Staff, and so well acquainted with the characters of all the Emperor's Marshals and Generals to whom important orders had to be given, that the loss of his services must be regarded as one of the chief causes of the failure of Napoleon's last campaign.

Alexandre Berthier, a product of Carnot's system, first springs to prominence in 1797 as one of the heroes who rallied the Grenadiers for the fierce struggle on the bridge at Arcola in company with Buonaparte.

The following year, 1798, he is again on the Staff in Egypt, and is selected as one of the small party of confidants to accompany Buonaparte when he deserted the army and slipped away from Egypt in a small vessel, which, narrowly escaping capture by Nelson, landed him on the coast of France.

In 1799 Berthier, as a confidential assistant of the First Consul, quietly raised a powerful reserve army to back up the schemes of his master. The divisions of this force were raised in various parts of France and were kept ready for instant

mobilization. The organization of this force was an experience of the greatest value to Berthier as Chief of the Staff in subsequent campaigns.

The year following (1800) we find him among the Alps reconnoitring and studying the passes. From his advice and reports Napoleon planned his great "coup," when on May 14th his army swept across the Alps and astonished the world. The details of this daring and brilliant move were left to Berthier.

Like most military officers, he was a true sportsman; during the short intervals of peace in those stormy times he amused himself as Master of Hounds. In 1804 he is created Marshal. A reward for his skill as Chief of Staff.

We have some interesting details of Napoleon's method of work during the vigorous campaigns of 1805-6. At one in the morning he entered his office where secretaries were already at work, found all reports from divisions ready at his hand, and then, pacing the floor, he would dictate his despatches and orders for the coming day. The orders when completed were handed to Berthier. By 3 a.m. they were on their way and reached the separate corps from Headquarters just before the soldiers set out on their march. It was by such perfect machinery that accuracy in both command and obedience was assured. When travelling, the seats of the Imperial carriage could be converted into a couch for Napoleon's frequent night journeys, but ordinarily Berthier and Murat took turns in sitting by his side during the Prussian campaign of 1806.

In 1807 Berthier was created Duke of Neuchatel, and two years later he was again Chief of the Staff in the fifth campaign against Austria. In this year he discovered a plot to murder the Emperor, noticing just in time the youth who was bent on doing the deed.

The Emperor's esteem and confidence in Berthier were made very clear to the world in 1810 when he was created Prince of Wagram, and, still greater honour, was sent as Ambassador Extraordinary to marry Maria Louisa by proxy at Vienna. Up to the last we find Berthier always at Napoleon's side. During the amazing manœuvres of the French Army by which he endeavoured to check the steady advance of the Allies upon Paris he frequently took counsel and advice from Maret and Berthier. Finally, when the enemy are at the gates of Paris, a council of war is held for the last time. Ney, Bertrand, Maret, Caulincourt, Oudinot, McDonald and Berthier are there. They stand, these splendid men, raised to eminence and wealth by their faithful service to the Emperor. Schooled in the art of war by that master mind. Experienced in the hardships of campaigns, and familiar with the horrors of war. They feel that the end has come. They are weary of fighting, and long for peace and domestic life. The Emperor, humbled by adversity, pleads with them to lead their soldiers

once more for a final effort, but they firmly refuse and boldly leave no course open for Napoleon but to abdicate. So ended the career of Berthier. He took no further part in the affairs of Napoleon.

A very different man was Napoleon's next Chief of the Staff in his last campaign of 1815.

As far back as 1800 we find Marshal Soult a commander of a force. His career was one of independent command and enterprise, calculated to enhance his reputation as a great general and army commander. Such experience is not suitable training for the duties of the Staff, which are essentially subordinate, and which require disinterested effort and self-effacement in the endeavour to perfect the schemes of the man in supreme command. In 1800 Soult commanded an army at Tarentum, and again in 1803 held an important command in "The Army of England," at Boulogne. He was created Marshal for reasons of policy as much as for his military reputation. In 1805, at 36 years of age, he commanded an army corps. As early as this he was esteemed as a man who knew his profession and had practised it with success. He was self-reliant and enterprising. He held important commands at Austerlitz, Jena and Eylau. In November, 1808, we find him in Spain with an independent command of two corps cutting off Blake's retreat from Espinosa. When, under stress of more important affairs in Central Europe, Napoleon left the Peninsula, Soult was appointed to succeed him in command there, and pursued Sir John Moore to the coast.

In 1809 he conspired for the crown of Portugal. He became Commander-in-Chief of the French forces in the Peninsula after Talavera and won the battle of Ocana; but his jealousy and bickering with King Joseph and the other Marshals made his successes useless. In 1810 he displayed his character plainly in his jealousy of Massena.

When Wellington's victorious veterans were forcing their way through the passes of the Pyrenees, Soult was despatched against them, until the abdication of Napoleon put an end to what promised to be a serious invasion of France.

With the return of Louis XVIII, fortune again favoured Soult with a position of independent authority as Minister of War. This was a political move calculated to soothe the wrath of Napoleon's soldiery, who were being shamefully treated by the new Government.

It seems clear that whatever Napoleon's reason was for selecting Soult as Chief of the Staff in 1815, it cannot have been because he was experienced or familiar with the duties of such an appointment. There is evidence that the Emperor missed his old Staff Officers at Waterloo; especially his trusty Chief of the Staff, Berthier.

As of old, his plan of campaign was masterful and brilliant. The opening events, planned at leisure before the advance, were

auspicious. By a superb march during the night of the 13th, Napoleon's Army had gained a most advantageous position. From this point, however, failure began. Soult was unaccustomed to the position of Chief of the Staff. The confusion and uncertainty of secret movements before the enemy are always a fruitful source of blunder.

As opposing armies draw near, the chief commander relies more and more upon the intelligence of his Staff, both in collecting reports and in distributing his orders.

The old Staff machinery under Berthier, which ran so smoothly, had gone; and as a result we find the failure of Napoleon at Ligny, Quatre-Bras, and Waterloo directly due to confusion in regard to orders and neglect to send in reports.

On June 15th, 1815, when fighting began on the right bank of the Sambre, the French were advancing in three columns. The left, under Reille, drove back the Prussians. A rapid advance of the other two columns would have cut off the Prussians under Ziethen. But Napoleon's Staff, untaught by experience, sent only one messenger with the important orders to these two columns. The messenger fell and broke his leg. The order was not delivered and Soult was justly blamed for this.

Napoleon wasted four hours at Charleroi, where he stood in idleness waiting for news from these detachments. For this also his Staff is to blame.

At 4.30 p.m. on this day (June 15th), Marshal Ney arrived. He was at once rushed into the command of the columns advancing on Quatre-Bras. No proper orders were given to him, but only hasty verbal instructions from Napoleon. He had as yet no organized staff, and only a vague idea about the situation. When he met Wellington's troops at Frasnès, he was so uncertain as to the wishes of the Emperor that he called a halt and went back for orders. Surely in this we see the neglect of the Chief of the Staff.

On the next day (June 16th), the wanderings of D'Erlon between Quatre-Bras and Ligny, and the frightful quandary in which he was placed as to his duty, adds no lustre to the glittering staff of Napoleon.

On the battlefield of Waterloo we find Soult quarrelling with Ney over the waste of cavalry. Orders for the co-operation of the three arms were not given; with the result that each arm was used separately and without support from the other two.

It has been said of Napoleon that at Waterloo he failed in control of his subordinates. But it was the intelligence and tact of a good Staff that Napoleon required and lacked to enable him to make the proud, jealous and over-confident Marshals work together. So it is evident that the mishaps and regrettable incidents of the 15th to 19th June, which brought about the Emperor's defeat, are not alone due to his physical decline and the determination of the Allies, but largely also to the absence of an efficient Staff, without which no General can hope for success.

A SHORT STUDY OF THE BATTLE OF THE SHA-HO.

(Emphasizing a few of the fundamental principles enumerated in our Field Service Regulations.)

By CAPTAIN W. H. TRAILL, *p.s.c.*, E. Lancashire Regt.

THE more closely one studies the Battle of the Sha-ho, the more does one realize how many of the principles laid down for our guidance in the Field Service Regulations, were disregarded by the Russian leaders: sound principles, which, had they been followed, might have led to victory.

I do not propose to enter into a detailed account of the battle, with which the reader will be already acquainted, but a brief, general survey of the main operations will be necessary, in order to emphasize those principles to which I have referred.

It will be remembered that, after the Battle of Liao-yang, the Russians had retired northwards, and that the Japanese pursuit was not carried out beyond the coalfields of Yen-tai, and Yen-tai station.

At the commencement of October, 1904, the general situation was as follows:—(Sketch 1.)

RUSSIANS: Around Mukden, the 1st and IVth Siberian Army Corps, the 1st, Xth, and XVIIth Army Corps. At Tieh-ling, the VIth Siberian Army Corps. At Fushun, the IIIrd Siberian Army Corps. About Fang-shen, the IInd Siberian Army Corps.

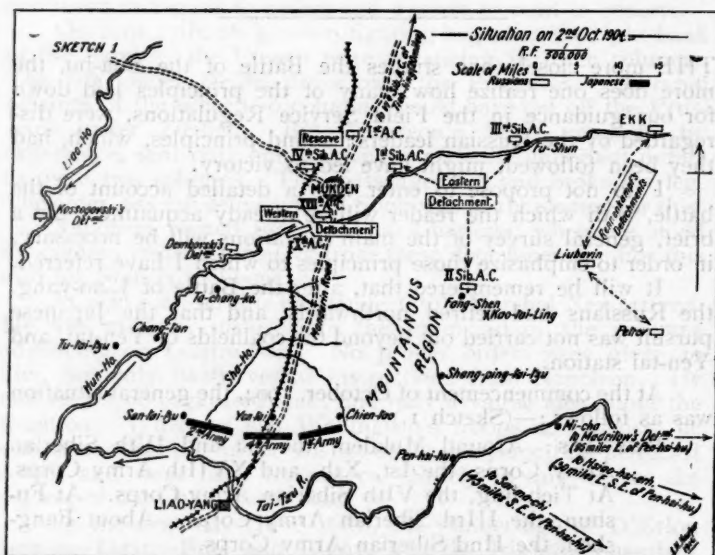
Detachments covered the whole front extending over a distance of 40 miles from Ta-chang-ko to Kao-tai-ling.

Beyond the left flank were some scattered detachments under Lieut.-General Rennenkampf and Colonel Madritow, and beyond the right flank a detachment under Major-General Kossogovski.

The whole numbered, as far as can be ascertained, about 200,000 rifles and sabres, with 760 guns.

JAPANESE: Ten miles north of Liao-yang, on the line, San-tai-tzu—Yen-tai—Chien-tao, the First, Second, and Fourth Armies, with detachments pushed out to the front, covering a distance of 40 miles from Tu-tai-tzu, on the Hun-ho, to Shang-ping-tai-tzu, on the Sha-ho. These armies numbered approximately 170,000 rifles and sabres, and 570 guns.

The theatre of operations was bounded on the west and north by the Hun-ho river, and on the south, by the Tai-tzu river. The railway and Mandarin road, running north and south, mark the eastern limit of the plains, where the only serious obstacles to movement are the streams and rivers running from the hills on the east to the Hun-ho on the west. Immediately east of the railway are low sandy knolls, the ground rapidly assuming a more mountainous nature as it stretches further eastward. In this mountainous tract of country movement off the tracks is difficult for infantry and almost impossible for mounted troops.



It is generally recognized that neither force could claim a great advantage over the other in the matter of the fighting qualities of their troops, for the courage of both Russian and Japanese soldiers has never been disputed. The Russians had, however, a slight numerical advantage in infantry and cavalry, and a decided superiority in the number and quality of their ordnance, but these advantages were to a great extent minimized by their obsolete method of training, and their inferior leadership.

This battle brings prominently to notice the truth of the axiom:—*"Superior numbers on the battlefield are an undoubted advantage; but skill, better organization and training, and, above all, a firmer determination in all ranks to conquer at any cost, are the chief factors of success."*

The Japanese generals were imbued with this one idea—to conquer—and to this end they combined, having absolute faith in their supreme leader, who, in his turn, trusted his subordinates to carry out his intentions in the way best suited to the circumstances.

There appears to have been a lack of cohesion on the part of the Russian commanders, who often failed in that initiative so essential to success. We must, however, give them credit for the ability they displayed in successfully withdrawing from difficult situations, and also for their capacity in fighting rear-guard actions, although it was this inclination to so readily assume the defensive which in no small measure contributed to their undoing.

General Kuropatkin decided to assume the offensive and advance to attack the Japanese in the position they were occupying. He had obtained accurate information as to the position of the Japanese forces, therefore there would appear to be no reason why a sound scheme, executed with vigour, should not succeed. But did General Kuropatkin feel assured, in his own mind, that he was in a strong enough position to undertake the offensive, or did he feel it incumbent on him to act without possessing the necessary confidence in his action? Was his decision due to pressure from higher authority, or was it prompted by the need for raising the morale of his troops, daunted by so many successive retirements before the enemy? These are insoluble problems, but it is certain that a man who enters a contest without confidence in himself, and in fear of his adversary, is a man already defeated.

General Kuropatkin's plan of operations was as follows :—
(Sketch 1.)

- (1) An Eastern Detachment, consisting of the 1st, 11th, and 11th Siberian Army Corps, with Major-General Samsonov's Cavalry, a total of 73 battalions, 34 squadrons, and 164 guns, under Lieut.-General Baron Stakelberg, was to attack and envelop the Japanese right flank.
- (2) A Western Detachment, under General Baron Bilderring, including the Xth and XVIIth Army Corps, with Major-General Crekov's Cavalry, numbering 64 battalions, 40 squadrons, and 190 guns, was to advance on the Japanese centre and left, presumably with the intention of preventing the Japanese from moving troops to reinforce their right flank, the attack against which was to be the main or decisive attack.
- (3) In general reserve, the IVth Siberian Army Corps; the 1st Army Corps and Major-General Mishchenko's Cavalry were to follow in rear in the centre between the two wings.

- (4) A Right Flank Guard, under Lieut.-General Dembovski, of 12 battalions, 16 squadrons, and 32 guns, was to secure the right flank, and follow the right bank of the Hun-ho for this purpose as far as Chang-tan. The crossing at this place was to be secured.
- (5) Another Right Flank Guard of six battalions, nine squadrons, and 16 guns, under Major-General Kossovski, was to secure the extreme right flank, moving along the right bank of the Liao-ho, remaining on a level with Dembovski's detachment.
- (6) A Left Flank Guard, under Lieut.-General Rennenkampf, consisting of 13 battalions, 16 squadrons, and 30 guns, was to secure the left flank, marching on the line Mi-cha—Hsiao-hsi-erh.
- (7) Another Left Flank Guard of one battalion, two squadrons, and two guns, under Colonel Madritow, was to watch the extreme left flank, marching in the direction of Ta-ping-ting-shan—Sai-ma-chi, and maintain communication with Rennenkampf's detachment.
- (8) A Rear Guard, the VIth Siberian Army Corps, numbering 32 battalions, six squadrons, and 96 guns, was to be echeloned between Mukden and Tieh-ling.

This rear guard of a whole army corps appears to be out of place and unnecessary.

Our Regulations, in discussing the rear guard, lay down that "*The first requirement of a defeated force is to be relieved from the pressure of pursuit, this is effected by detaching a portion of the force as a rear guard to impede the enemy's advance;*" and again, "*If there is any chance of an advancing column being exposed to the enemy's attacks, the rear guard may be composed of all arms, sufficiently strong to meet all emergencies.*"

Neither of these cases appear to apply, however, in this instance, and therefore I can find no reason to warrant the employment of a rear guard.

These far-flung mixed detachments on the Liao-ho, and in the direction of Sai-ma-chi, also strike one as being unnecessary precautions, and a frittering away of strength.

If it were feared that Port Arthur would fall, thereby setting free the Third Japanese Army, or if there were any possibility of the Japanese making wide turning movements with any considerable bodies of troops, these could equally well have been detected, and reported in ample time, by bodies of cavalry only, posted wide on the flanks.

General Kuropatkin appears, indeed, to have taken counsel only of his fears, for he seems to have apprehended attack from all directions, front, flank and rear, and this notwithstanding that he was well informed of the position of the several Japanese Armies.

It is instructive to peruse the Russian General's orders¹ for his intended operations, and compare his long-winded effusion with the concise orders¹ issued by Marshal Oyama to the Japanese Armies during the different phases of this battle.

It will be noted that the Russian Commander-in-Chief reserves to himself the right of detailing every daily move of both the Advance Guards and the main bodies of the Eastern and Western Detachments, and that on more than one occasion he, himself, issues orders directly to subordinate commanders instead of dealing with their superiors. Instances² of this will be found during the fighting on October 12th, on the Russian right. The Commander-in-Chief, having reconsidered his decision to stand and fight on the Sha-li-ho, ordered General Bilderling to retire to a position further in rear, but the Japanese having resumed their attacks by the time this order was received, General Bilderling had decided to remain where he was, counting, unfortunately, on assistance both from General Dembovski and from the VIth Siberian Army Corps. Similar instructions for retirement were issued by the Commander-in-Chief direct to General Sluchevski, commanding the Xth Army Corps, with the result that half General Bilderling's force, i.e., the Xth Army Corps, was contemplating a retrograde movement, whilst the remainder, the XVIIth Army Corps, was preparing to stand and fight.

Again, during these same operations, the commander of the Xth Army Corps received, on one occasion, two sets of orders, one diametrically opposed to the other, for he received orders from the Commander-in-Chief to keep his reserve behind his left flank and be prepared to assist General Mau with a brigade, if necessary, at the same time receiving orders from his immediate superior, the commander of the Western Detachment, to place his reserve behind his right flank, where it would be in a position to come up between the Xth and XVIIth Army Corps, if required.

This encroachment, by a supreme commander, on the territory of a subordinate (in this case the commander of the Western Detachment) must lead to confusion, and is liable to stifle initiative and foster irresolute action.

A commander, once having clearly made known his intentions and issued his orders, "*the choice of the manner in which the task assigned to each body of troops is to be performed should be left to its commander.*"

General Kuropatkin was influenced no doubt by the trend of events in his immediate neighbourhood, but "*a Commander-in-Chief should usually be well in rear, beyond the reach of distraction by local events, and in signal communication with his chief subordinates.*"

¹ See Official History.

² Ibid, pp. 71-88.

It is worthy of note that no communication was established between supreme Headquarters and the Eastern Detachment and that consequently the Commander-in-Chief was often in ignorance of the progress of events in that direction.

It is laid down in our Field Service Regulations that, "*Broadly speaking, success in battle may be sought by means of a converging movement of separated forces so timed as to strike the enemy's front and flank, or flanks, simultaneously,*" and again, "*as a general principle the greater the fighting power and offensive spirit of his adversary, the more advisable will it be for a commander to engage him effectively along his whole front, while adequately covering his communications, before attempting to force a final decision,*" for, "*decisive success in battle can only be gained by a vigorous offensive.*"

All the above excellent principles were disregarded by the Russian Commander-in-Chief.

His intention was evidently to strike and envelop the enemy's right flank, whilst engaging him along his front. To ensure these attacks being delivered simultaneously, the Eastern Detachment should have been set in motion before the Western Detachment, for the latter was only separated from its objective by some 20 miles of level country, whereas the former not only had a greater distance to traverse, but its route lay through a difficult, hilly, and little-known country, through which progress must necessarily be slow.

Kuropatkin, however, decided to start off these two detachments together, thus making it necessary to constantly check the advance of the Western Detachment, which took four days to cover the 20 miles, and this halting advance enabled the Japanese to concentrate their forces.

But "*when a commander has decided to attack, rapidity of action is of the utmost importance.*"

Instead of delivering a whole-hearted attack against the Japanese front in order to hold him and pin him to his ground, General Kuropatkin seems not to have contemplated any vigorous offensive movement, as we read of instructions being issued that this Western Detachment was not to permit itself to be drawn into a serious engagement. In fact, this attack savours somewhat of what was formerly known as a "Holding" or "Containing" attack, objectionable terms, which now find no place in our Regulations, for experience has proved that "*half-hearted measures never attain success in war, and lack of determination is the most fruitful source of defeat.*"

A resolute advance on the part of the Western Detachment, combined with a simultaneous and determined attack by the Eastern Detachment, would have undoubtedly paved the way to success.

It may be asked, was the Commander-in-Chief well advised in making the Japanese right wing the objective for his decisive attack, taking into consideration the hilly country over which the Eastern Detachment would have to operate, and the consequent difficulty which would probably be experienced in bringing about the co-operation of the three arms? The terrain west of the railway was flat and better suited to the combined operation of all arms, but on this flank the area available for manoeuvre was considerably restricted, owing to the Hun-ho and Tai-tzu rivers, and an enveloping movement on this flank would have been a difficult and dangerous operation.

We must presume, therefore, that the Russian leader had carefully weighed these two alternatives, and that, being confronted with the choice of two evils, he chose that which seemed to him to hold out the best chance of success.

As I have already said, the so-called attack on the Japanese front was never properly delivered, nor did the enveloping attack against the Japanese right flank meet with much success. Here the Japanese had only the Guard Reserve Brigade of six battalions, one squadron, and one battery, and later, the 12th Division of the First Army was moved up in support, and included 12 battalions, three squadrons, and 36 guns. Opposed to this force was the Eastern and Rennenkampf's Detachments, a total of 86 battalions, 50 squadrons, and 194 guns (Sketch 2), yet the Russians made no progress, and the reason is not far to seek. Their troops were only brought up in dribbles, without co-operation or unity of effort, and the fighting in this portion of the field resolved itself into a series of isolated and disjointed attacks. Evidently no careful arrangements were made to ensure that these attacks should be simultaneously delivered, as we are advised in our Field Service Regulations.

The result of this omission was that the Japanese, with one and a half divisions, were able to hold in check a force of six divisions, and consequently Marshal Oyama deemed it unnecessary to send troops to reinforce his right flank, but retained them where he intended to deliver his decisive counterstroke.

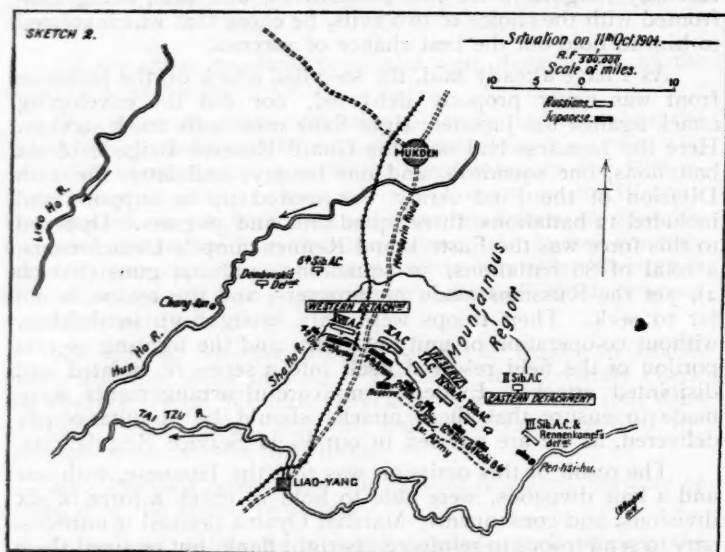
Had the pressure against the Japanese right wing been relentlessly applied and maintained by the Russian Eastern Detachment it seems probable that Marshal Oyama would have been forced to weaken his centre in order to reinforce this flank, thereby giving the Russian Western Detachment a chance of breaking through the Japanese centre. The decisive attack by the Russians would thus have been transferred from the Japanese right flank to their centre.

From this may be understood the reason for condemning so strongly the use of such a term as "Holding" attack, for the attack that was originally intended to hold the enemy to his ground in one portion of the field, may ultimately become the decisive or main attack.

Not only the decisive attack, but also the attack by which it is intended to hold the enemy to his position, should be carried out with the utmost vigour, and this is clearly implied by Section 103, Field Service Regulations.

It is interesting to compare the Russian and Japanese subordinate commanders, the former hesitating to act without definite orders, the latter seizing the initiative, and acting in the absence of orders, if circumstances demanded that they should do so.

Not the least remarkable among other instances are the cases of General Kuroki, commanding the Japanese First Army, and General Dembovski, commanding the Russian Right Flank Guard. Immediately General Kuroki was satisfied that a



strong force was advancing against his wing, he, without awaiting orders, issued instructions for the concentration of the First Army, at once reporting his action to supreme Headquarters.

General Dembovski, on the other hand, maintained an attitude of masterly inactivity throughout the greater part of this battle, at Chang-tan, on the Hun-ho, notwithstanding that he had at his disposal a force of 12 battalions, 16 squadrons, and 32 guns, and for some considerable time was only opposed by the Japanese 1st Cavalry Brigade of 12 squadrons, with two battalions of infantry. All he appears to have attempted, however, was a futile attack against this cavalry brigade, with a few companies of infantry, instead of brushing aside this small force, and marching to the sound of the guns.

He appears to have waited for orders that were not forthcoming.

Here, again, the Field Service Regulations come to our aid, and show us what should be done under such circumstances.

In discussing the encounter battle, it is stated that:—

"The conditions that give rise to encounter battles make it probable that flank guards, or columns of troops other than those in actual contact with the enemy, will be left without orders; it is the duty of the commanders concerned, on hearing the sounds of battle, to take steps to ascertain the situation, and to co-operate in whatever way it appears to them most suitable."

It may be argued that this was not an encounter battle, or that General Dembovski's Detachment was in actual contact with the enemy, but whatever may be the literal wording of this principle, the spirit of this regulation admits of but one interpretation, *viz.*, that whatever the circumstances, it is the duty of a commander who is left without orders, to take steps to ascertain the situation, and to co-operate to the best of his ability. He is certainly not to permit himself to be held in check by a vastly inferior force without making an attempt to brush it aside.

A great opportunity was lost by the Russians of making a counterstroke against the Japanese left, when the 4th Division of the Japanese Army was attempting to envelop the right flank of the Russian Western Detachment. (Sketch 2.)

The VIth Siberian Army Corps, which originally formed the Rear Guard, had advanced, echeloned, to the right rear of the Russian Western Detachment. It is obvious that this army corps, in co-operation with Dembovski's Detachment, might have been launched against the Japanese left flank with a good prospect of rolling up that flank.

No such operation, however, was attempted, and finally these two corps merely joined hands with the Russian right, and further extended their already long line.

The circumstances clearly point to this being an opportunity for seizing the initiative on the part of General Dembovski, and of the commander of the VIth Siberian Army Corps.

The orders issued to the latter General by the Commander-in-Chief were to the effect that he could join in the action of the Western Detachment if urgency demanded it, but that he was not to scatter his forces, and was to bear in mind that his corps was the strategical reserve of the Commander-in-Chief. Such instructions can have but a deleterious effect on the conduct of a subordinate commander, for restrictions of this nature must necessarily hamper his action, and put a drag on any initiative he might otherwise possess.

That it had such an effect is shown by the fact that the commander of the VIth Siberian Army Corps turned a deaf ear to the urgent requests of General Bilderling, commanding the

Western Detachment, when the latter vainly appealed to him for support, and was able to justify his refusal by pointing to the wording of his orders.

The Field Service Regulations give us the following information on this subject:—"If a subordinate, in the absence of a superior neglects to depart from the letter of his orders, when such departure is clearly demanded by circumstances, and failure ensues, he will be held responsible for such failure."

This appears to have been a case where departure from the letter of his instructions was clearly justified, for a vigorous counterstroke against the Japanese left, at this period, might have led to far-reaching results.

It will be remembered that Marshal Oyama would not permit himself to be thrown on the defensive, and did not wait for the Russian attack, which was so long delayed, but himself assumed the offensive.

It is hard to conceive that General Kuropatkin could ever have entertained any real hopes of imposing on the Japanese commander by so weak an attack on his front, nor was Marshal Oyama in any way deceived by such half-hearted measures. He concentrated superior forces at the decisive point, employing five divisions against the Russian Western Detachment, which, being distributed in three positions, had only the free use of three and a half divisions, and hurled three divisions against the Russian centre, which numbered two and a half divisions.

It was a bold stroke, for his right wing consisted only of one and a half divisions, and was opposed by six Russian divisions, which, had they carried out their task effectually, might have placed him in an extremely awkward predicament.

History has taught us, however, that a bold course will often succeed, where a more cautious plan will fail.

Marshal Oyama's orders for the advance of his armies should be noted. They are clear and concise, and follow out the principles in our Regulations, which lay down, "*It is neither possible nor desirable to give more than general indications as to how a problem is to be solved.*"

It has only been possible to mention a few of the points in this battle which are at variance or otherwise, with the teachings of our Regulations, there are many others that might be brought to notice.

I have only attempted to make a constructive criticism of the actions of the Russian commander, by pointing out remedies, in the form of certain fundamental principles of war, which, if appreciated and applied intelligently, hold out a reasonable prospect of success.

All criticism is subject to the well-known taunt, "It is easy to be wise after the event," but this remark is not, I consider, applicable to this essay.

I have apportioned no blame to the Russian commander for not foreseeing events, but merely for not adhering to common-sense principles, which, had they been followed, might have changed the whole course of events.

In conclusion, the impression left on my mind, after closely studying this Battle of the Sha-ho, is, that neither superiority in numbers at the decisive point, nor courage, nor endurance, were the deciding factors that won the day, but superior generalship.

This battle resolved itself into a mental struggle between two leaders of opposite character, the one apprehensive, and morally defeated before he had encountered his foe, the other sure of his intention, full of determination, and striking swiftly when he judged his hour had come.

It was a battle in which indecision, inaction and irresolution were pitted against decision, action, and a stubborn resolve to win at all costs.

It was not, I maintain, the men that lost the battle, but the Man.

The Russians might well have echoed the plaint of the Irish after the Battle of the Boyne, "Change leaders with us, and we will fight you over again."

DESCRIPTION OF COLOUR IN FRONTISPIECE.

The illustration represents the Regimental Colour of the second set, received by the Regiment (De Roll) not long after participating in the Egyptian Campaign, 1800.

"The Regiment had yellow facings, therefore the flag is yellow, but with little to distinguish it as a British corps, beyond the small Union in the upper corner, and the crown; the human eye in the centre and the motto "Schwebe über uns und segne unsere Treue," perhaps leans in the direction of Masonic significance: it is the only specimen of the Colours of any foreign corps in the British Service which the author has met with."

¹ See *Standards and Colours* by S. M. Milne, p. 163.

THE REGIMENTAL OFFICER AND HIS CASH DUTIES.

By MAJOR G. S. TULLOH, The Gloucestershire Regiment.

I.—THE primary object of this paper is to assist regimental officers to grasp the rudiments of book-keeping in reference to the Instructions relating to Company Pay duties published in May, 1911, and especially in reference to the Company Cash Account, Army Book 69. It also states very briefly, the principles upon which records of an officer's cash transactions whether in regard to the company, the mess, the institute, or even his own personal expenditure, should be kept. Army practice, as prescribed by tradition and regulation, follows generally upon commercial lines—where it differs at all it will be found to do so only in some minor points, and these differences, as will be seen below, are obviously adopted to meet special service needs. In civil life a man gets his wages in a lump sum, which he spends or disposes of at his pleasure, but in the Army a soldier draws generally only a proportional amount of a net weekly rate of pay, the difference being accounted for as stoppages due to the company or the public, which the company officer—the man's real paymaster—is called upon to recover from the gross amount due to the man, the final result being the balance due to or from the man at the end of the period of the account.

Book-keeping is the means adopted to arrive at this end. Unfortunately, book-keeping has, in the Army, been often regarded as something commercial—something connected with trade, which may be ignored, or at the worst left in the hands of the N.C.O. By luck, or chance, or by being ably served by subordinates, many an officer has come through his company service without financial mishap, while the bitter experience of having to make up a deficit has brought home to others, when too late, the necessity there is for always keeping clear, accurate, and readily understood accounts.

II.—In civil life it cannot be disputed that a deplorable amount of ignorance of the subject of book-keeping exists among all classes, except those who are being trained for a business career, and so far as the Army is concerned, this ignorance is not confined to the junior ranks alone. The reason for this lack of knowledge among officers generally is not far to

seek. Book-keeping is a subject in which little or no instruction is given, either in our public schools, or with the exception of a few exercises in keeping pay and mess books, later in our military colleges. A hapless youth is thus left to acquire by painful, and often costly, experience, a knowledge of the advantage to be gained by entering a set of figures in one column in preference to another.

III.—The handling of money and the consequent need for keeping an intelligent and accurate record of transactions, falls to the lot of nearly every person who attains to years of discretion, and it is contended that a knowledge of how to keep such a record will be of service to all, for the great majority of young men who go out into the world are not spendthrifts by nature; but without guidance in financial matters they are apt to become heedless of the importance of "Cutting their coat to suit their cloth."

To take an example:—The regimental officer is credited with his own pay in advance monthly. To how many does it occur that this sum of money should be utilized in defraying the expenses of the current month, instead of those of the previous month?

The mere fact of having studied the elements of book-keeping for company purposes may be the means of inducing some officers at least, to pay attention to their own private affairs, thereby encouraging the habit of thrift and bringing about a realization of the fact that the possession of money in the bank does not necessarily imply that the owner of it is "solvent," or, in other words, able to pay all his debts.

This subject is so important as to merit its inclusion in the curriculum of instruction in all schools, for the fate of most of us is to be compelled to "make money" by means of some profession. It cannot fail also to be of interest to the "idle rich," since the possession of wealth is no sinecure.

DEFINITIONS.

It is necessary to define those terms employed in keeping accounts which are required for an explanation of the subject under discussion.

i. DOUBLE ENTRY is the name given to the system in which each entry is made twice (or doubled), and which, in consequence, provides means within itself and in its results of testing the correctness of the accounts.

ii. DEBTOR AND CREDITOR.—Debtor in ordinary conversation means "one who owes." In book-keeping it has that meaning, but also has a further meaning. It signifies not only *the one who owes*, but *the one who does the thing that causes him to owe*. For example, when a man buys goods he *receives* what he buys; when he borrows money he *receives* what he borrows; in each case he is a *receiver*. Hence, in book-keeping,

debtor means either one who *owes* or one who *receives*. A step further to which this illustration can be carried deals with a subsequent cash transaction and its proper entry : *e.g.*, I owe John Brown £50, and in liquidation thereof I pay him £20. I cannot now say that I owe him nothing, as the balance (£30) is still due from me but, as he receives the £20, that sum will go to his *debit* in my ledger.

CREDITOR, in ordinary conversation, means *one to whom money is owing*. In book-keeping it has that meaning, but also has a further meaning. It signifies not only the *one to whom money is owing*, but *one who does the thing which causes money to be owing to him*. Now, when a man sells, he gives what he sells, therefore he is a *giver*. (*To say so does not mean that he gives it for nothing*). Hence in book-keeping creditor means either *one to whom money is owing* or *one who gives*.

Further, suppose John Brown owes me £50, and he pays me £20; he still owes me £30, yet, because he *gives* me £20 he becomes *creditor* for that £20, in the language of book-keeping.

In accordance with these two conceptions of *debtor* and *creditor*, books of account are prepared and ruled in such a way as to facilitate the entry of the items, so that all those referring to what is received are put together on one side, called the *debtor* (or debit) side; while all referring to what is given (or paid) are placed together on the other side, called the *creditor* (or credit) side.

In accordance with long usage, the left-hand side of an account is reserved for the debit entries, that is, for the entries of *what is received*, and the right-hand side for credit entries, that is, for entries of *what is given (or paid)*.

The keynote of double-entry book-keeping is that "Every debit must have a corresponding credit" in some other book kept by the same accountant. It must be remembered that these terms of "debtor" and "creditor" refer only to the books kept by the accountant.

For example :—If money is paid into the bank for the purpose of deposit, the bank, as receivers, become *debtors* for that amount, and the payer in of the amount becomes a *creditor* for that amount. This is expressed by the terms "Crediting an account," or "Debiting an account."

iii. A FOLIO consists of two pages of a book facing each other, ruled with date, money and other columns for the debtor and creditor sides of an account. Folios are always numbered, and when two facing pages are used for one folio, whatever number is used on one page must also be on the other, for the simple reason that it is the *folios* which are numbered and the two *pages* form but *one folio*.

iv. A FOLIO COLUMN is the column in an account book used for the purpose of entering the number of the folio from which

an item is posted from the cash book to the ledger, and *vice versa*. It must not be confounded with the *folio* described above.

v. CASH means money in any form, as gold, silver, copper, bank notes, postal orders, or stamps.

vi. AN INVOICE is a document showing particulars of quality, quantity, and prices of goods purchased by one person from another *on one day*.

vii. A STATEMENT OF ACCOUNTS is a document rendered periodically showing without detail the amounts of the invoices rendered during that period.

viii. A VOUCHER or RECEIPT is a written acknowledgment that money has been paid.

ix. A CHEQUE is a written order to a bank directing the bank to pay a stated sum of money to some person or firm named therein. Cheques are either made payable to "Bearer" or "Order." In the former case anyone who picks it up or steals it can present it at the bank, and obtain payment for it. In the latter case, the person to whom the cheque is made payable must *endorse*, or sign his name on the back of it. These are called "open cheques."

"Crossed cheques" have two parallel lines drawn across the face of them, with the words "& Co." in the space between.

Credit for a crossed cheque can only be obtained when it is presented by *another bank*. If the name of a particular bank is entered in the crossing, credit can only be obtained by that bank. This is a very safe way of paying, but the drawer of the cheque must know the name of the payee's bank before crossing it. Another, and still safer method of crossing is to write the words "A/C payee" between the lines. In this case the payee cannot obtain cash on presentation at the bank, as the amount is placed to the credit of his account with the bank. If desired the name of the payee's bank can be added to the words "A/C Payee." Either "Bearer" or "Order" cheques can be crossed.

A thorough understanding of the foregoing definitions will greatly assist in mastering the rudiments of book-keeping. These definitions apply to all forms of book-keeping, and are not peculiar to commercial accounts.

It must be understood that the form of the accounts under discussion is that of double entry. It is to be regretted that the fact that Army book-keeping is based upon double entry is not clearly emphasized in the Official Instructions, for the act of doubling each entry in some other account is of the greatest assistance to the officer, as it enables him to check the correctness of his figures, and also to grasp the utility of the various forms of account which he is called upon to handle. Double entry, then, is the best friend of the accountant rather than the bogey it is often imagined to be by the uninformed.

The following paragraphs show how each entry in the Cash Book, which is the "Book of Original Entry," is reproduced in some other account, thus forming a check upon the Cash Book figures.

The books dealt with are:—

1. The Cash Book in which only actual cash transactions are entered.
2. The various Ledgers in which entries in the Cash Book are repeated, and in addition various book-keeping transactions which are adjusted through the Pay and Mess Book. These Company Ledger accounts are kept at the end of A.B. 69, and also in the P. & M. Book, of which Forms I. and II. are a specially compiled form of Ledger due to the fact that a number of men's names are entered on one page, thus avoiding the extra labour that would be entailed by providing each man with a separate folio in a Ledger.

I. THE CASH BOOK. (A.B. 69).

The Cash Book contains two money columns on each page of the folio headed "Bank" and "Cash" respectively; for purposes of reference they are here numbered 1, 2, 3, and 4.

As each entry in the book coincides with some physical act of receiving or paying away money, it is well that this physical act should be borne in mind when entering figures in the various columns; it should therefore be imagined that the columns headed "Bank" represent the "bank counter" across which business is transacted, while the columns headed "Cash" represent the "hand" which receives or pays away money.

If the two acts are kept clearly in view, the accountant should have no difficulty in deciding in which column he should enter his figures. Every actual transaction entails a corresponding entry; there must be no "mental gymnastics" in accounting, for, if so, the task of the auditor, or person who checks the account will be rendered hard.

In the following example it will be seen that for purposes of explanation, the entries are lettered from (a) to (f).

NOTE.—The importance of always using the four columns is emphasized by the fact that the balances (which if "in hand" should be either in the Bank or in the Company safe) are found by totalling the columns in question and subtracting the lesser from the greater in each pair of columns. The differences shown are the balances, and, in regard to the Bank, these admit of a further check by a comparison with the Bank Pass Book, but to arrive at the Bank balance outstanding cheques must be taken into account. It cannot be too strongly impressed upon all officers dealing with public money that a frequent comparison between the Cash Book and Bank Pass Book is of vital necessity.

CHRONOLOGICAL STATEMENT OF ENTRIES.

Date.		£	s.	d.
Aug. 16	Cash in hand (Bank)	6	3	2
	" " " " " " (Safe)	1	12	9
" 17	Paid into " Bank by Cashier (a)	60	0	0
" 18	Cash drawn from Bank (b)	55	0	0
" 19	Cheque received from O.C.B. Co.—Regt. (Messing attached) } (c)	2	5	0
" 19	Paid Company in Cash (d)	50	5	0
" "	" " Casuals " " " " " " (e)	5	15	0
" 20	" " O.C.A. Co. (pay of attached) cheque (f)	9	10	0

Notes on Foregoing Statement.

(a) On Imprest.

(b) £55 having been drawn by cheque as cash from the Bank is entered first in Column 3 to credit of "Bank," and then in Column 2 to debit of "Cash," as the amount is, for the time being, put into the Company safe.

(c) Cheque for £2 5s. is at once entered in Column 1 to debit of "Bank" and paid into the Bank.*

(d), (e) These amounts being paid in cash are credited to "Cash" in Column 4.

(f) This amount being being paid by cheque is credited to "Bank" in Column 3.

* This is not the usual custom in commercial book-keeping, where cheques received are first entered in Column 2 to debit of "Cash," and when paid into the bank are entered to the credit of "Cash" in Column 4, and to the debit of "Bank" in Column 1. This, however, entails making three separate entries for one transaction, and it is simpler for the officer to pay the cheque at once into the bank and to debit "Bank" in Column 1.

5 CASH BOOK.

(The Ledger follows after Folio 101).

(Dr.)		RECEIPTS.					
		(1)			(2)		
Date	From Whom.	On What Account.			Bank.		
					£	s.	d.
Aug. 16		Balance B/F. ...			6	3	2
" 17	Cashier	Impres			60	0	0
" 18	Bank	Cash			—	—	—
" 19	O.C.B. Co.—Regt.	Messing attached			2	5	0
		Total			†68	8	2
					‡56	12	9

5

		PAYMENTS.					
		(3)			(4)		
Date.	To Whom.	On What Account			Bank.		
					£	s.	d.
Aug. 18	Selt ..	Cash			55	0	0
" 19	Company	Pay			—	—	—
" "	Casuals	Pay			50	5	0
" 20	O.C.A. Co	Pay Attached			5	15	0
		Balance in hand ...			9	10	0
		Total			†68	8	2
					‡56	12	9

P. & M. Bk.
Receipt
N. 1510

† Bank Counter. ‡ Safe.

Reconciliation Statement of Bank Account.

	£	s.	d.
Balance as shown by Bank Pass Book... ..	13	8	2
<i>Deduct</i> cheque paid away but not yet presented	9	10	0
Balance as shown in Cash Book	3	18	2

II. LEDGER ACCOUNTS.

(a) The Ledger (fol. 101. A.B. 69).

The Ledger contains records of the sub-accounts. A convenient number of folios is allotted to each sub-account. The various items in the "Cash Book" are entered as necessary in the Ledger, but whereas such entries in the Cash Book are all contained in one folio, the entries in the Ledger are placed in the folio of each account concerned. A Ledger therefore contains a completely classified record.

In Army Book 69 the Ledger accounts consist of "Consolidated Stoppage," "Insurance Stamps," and "Contingent." Owing, however, to the absence of a folio column in the Cash Book, the items which are posted into the Ledger are not readily identified, but have to be extracted separately from the various entries in the Cash Book. Further, the only entries which appear in both Cash Book and Ledger, under the Dover system, are those referring to Consolidated Stoppage, Insurance Stamps, and Government grant to Contingent. Entries referring to "Pay" are carried into Forms I. and II. of the Pay and Mess Book, which thus for cash becomes in effect a Ledger in addition to the Ledger in A.B. 69.

As already explained in the definitions, all sums received are entered on the debit (or left-hand) side of the Cash Book, and all sums paid out are entered on the credit (or right-hand) side. In the Ledger, as in the Cash Book, the debit side is on the left and the credit side on the right, and cash received and entered in the Cash Book on behalf of a sub-account is *credited* to that account in the Ledger, and cash expended on behalf of a sub-account is *debited* to that account in the Ledger.

Therefore every *debit* in the Cash Book becomes a *credit* in the Ledger, and every *credit* in the Cash Book becomes a *debit* in the Ledger. The folio column in the Ledger shows the number of the folio in the Cash Book from which the entry was taken.

Attention must here be called to two instances in which entries do not appear to follow the above rule. In the case of the Government Grant to Contingent, the amount is shown on the credit side of the Cash Book and also in the Ledger. The reason for this apparent anomaly is that the officer pays this sum to himself out of money supplied by the cashier. He thus acts a double part of paying out money on behalf of the cashier and of receiving the same amount on his own behalf. He thus

actually receives the money, and thereby becomes a *debtor* for that amount, and as the money is on behalf of the Contingent Account, it becomes a *credit* in the Contingent Ledger.

The second case is where the Consolidated Stoppage is credited in Form III. of the Pay and Mess Book (which is a summary of certain entries in the Cash Book) and also on the credit side of the Ledger. This is because the money is due from the men, and although they do not actually receive the full amount of pay and refund the amount due on Consolidated account, yet the amount is in theory received from them, and the officer becomes a *debtor* for that amount, and it thus becomes a *credit* in the Consolidated Stoppage Ledger.

(b) The Pay and Mess Book.

The essence of double entry book-keeping is that every entry is doubled, and further that every debit in one book becomes a corresponding credit in another book, both books being kept by the same accountant. It follows, therefore, that all entries in the Cash Book must be repeated in some other book in order to fulfil the above conditions.

As has already been shown, certain entries in the Cash Book are carried into the Ledger at the end of A.B. 69. Entries, however, referring to pay do not appear again in A.B. 69, for the reason that Forms I. and II. of the Pay and Mess Book do, in effect, form the Ledger provided for these entries. Forms I. and II., however, are merely a Ledger on the Dr. side, the Cr. entries being contained in the Pay List, which is kept by the Paymaster, and which shows each man's accounts in a special Ledger form. It would be of advantage, for the sake of clearness, if a set of columns were ruled at the foot of Form II. for the entry of each casual payment (as is done in the case of weekly payments), in order that each entry of pay in the Cash Book would be clearly seen to coincide with a similar entry in the Pay and Mess Book, thus impressing upon officers what double entry means in the case of the entries in the Cash Book.

Form III. contains a summary of the amounts shown in the Cash Book as cash received from the cashier (on the Dr. side) and payments to or on behalf of the men or company (on the Cr. side). It will be observed that the totals in the Cash Book and in Form III. do not necessarily agree, as the total amount of the Consolidated Stoppage is shown on the Cr. side of Form III. as paid, whereas the Cash Book shows only the actual sums expended, the balance being shown in the Consolidated Stoppage Ledger.

The reason for this is that the cash balance of the Consolidated Stoppage Account is not kept automatically separate by the company officer, as is the case with the Contingent Fund, but it and the Insurance Fund balances are mostly merged in the general balance on the account as shown by the Reconciliation Statement in Form III.

Form III. (Reconciliation Statement). Owing to the difference in the balances in Form III. and the Cash Book, due to the reasons given above, this form is for the purpose of reconciling and checking the correctness of the cash balances.

OTHER REGIMENTAL ACCOUNTS.

In addition to his duties in connection with the pay of his company, an officer is often called upon to assist in keeping or in supervising the accounts of institutes, workshops, messes, etc. The same rules, as previously described, apply to these accounts as far as the actual accounting for cash received and disbursed is concerned. In each case a general Cash Book records all cash transactions, these being classified by being repeated in the Ledger of the sub-account concerned.

As an example: Institutes usually comprise—Canteen, Messing, Library, Billiards, and any other accounts which it may be desirable to include under the above heading. For this group of accounts one Cash Book is sufficient with a Ledger containing a convenient number of folios for each of the sub-accounts. These may be denoted in the folio column of the Cash Book either by the number of the folio in the Ledger or, more conveniently, by the initial of each sub-account.

The form of Cash Book as exemplified in A.B. 69, while quite convenient for company cash transactions, is not the only form employed in commercial book-keeping. Owing to the number of entries during a month in the case of institutes, it will be found much simpler to keep the "Bank" and "Cash" transactions in separate books, both however being "Cash Books" as described above.

Another important point is that all cash received on behalf of any of the institutes should be at once paid into the bank, and all payments should be made by individual cheques or, in the case of small amounts, by a cheque drawn for the total amount of the small bills, which is converted into cash and paid through the book allotted to mere cash transactions. This latter book is sometimes called the "Petty Cash Book." Although it is not recognized in the Official Instructions yet for institutes, the use of two books is strongly recommended by practical experience as being the easiest to manipulate, and under which there is the least chance of loss of money.

BALANCE SHEET.

A balance sheet is a statement showing the condition of an account *at some particular date*, that is, it is a statement showing the amount of liabilities and also of assets. It is thus easy to tell which is the greater, and by finding the difference between the two the amount of surplus or deficiency is arrived at. As this surplus or deficiency concerns the state of affairs on a particular date, the balance sheet is

never carried forward to the next balance sheet; it is merely a periodical test for the purpose of discovering the solvency or insolvency of a business concern.

In a balance sheet "Liabilities" are entered on the left side of the folio, and "Assets" on the right side of the folio. The words "Due to" and "Due by" never appear in a Cash Book or Ledger, as these books deal only with cash or goods actually received, or disbursed (or sold).

BALANCE SHEET at December 31st, 1913.

Liabilities.				Assets.			
Due to Sundry Credit- ors, (<i>i.e.</i> unpaid bills)				Cash at Bank ...			
				Cash in Hand ...			
				Goods on Hand ...			
				Due by Sundry Debt- ors (<i>i.e.</i> sums due to the account) ...			
Balance Cr.		or		Balance Dr.			
Total				Total			

SUMMARY.

In one or two minor matters it would be of advantage if some of the forms and instructions could be amplified or amended; *e.g.* :—

1. A "folio column" added to the Cash Book in A.B. 69, in which would be entered the initial of the Ledger Account concerned, *e.g.*, P.=Pay, C.S.=Consolidated Stoppage, C.=Contingent, I.=Insurance.

2. A set of columns at the foot of Form II. of the Pay and Mess Book, the entries in which should coincide with the entries for casual payments in the Cash Book.

3. The following suggestion has not been previously alluded to, as it is a matter of expediency rather than of book-keeping.

Before the advent of the Dover system it was customary for the man to be stopped through his accounts for various voluntary subscriptions, but under the present Regulations the money has now to be collected from the men after they have received their pay. In theory this regulation was presumably framed for the purpose of simplifying the task of the accountant, but in practice the system is anything but satisfactory, for the reasons that the collection of small sums of money from individual men is a source of trouble, and, further, that a certain number of men, who would willingly subscribe to their various clubs, etc., when the amount is stopped through their accounts, object to parting with money once they have handled it.

This fact was recognized in India when the present system was inaugurated there, and officers commanding companies are allowed to enter the various subscriptions in a lump sum under the head of "Miscellaneous Stoppages," in the adjoining column to that containing the "Consolidated Stoppage," a certificate being added at the foot of the "Reconciliation Statement," to the effect that all sums received under this heading have been duly adjusted.

CONCLUSION.

In conclusion, it should be remembered that the foregoing remarks do not aim at covering the whole province of book-keeping—that would be unsuitable in a paper such as this—nor of surveying the whole field of Army accounting, which includes stores and equipment as well as cash. The object of the writer has been merely to impress upon all officers the necessity of mastering at the outset of their careers the rudiments of account keeping, a subject of great importance in its own sphere, but, like many other parts of the complicated machinery of life, its efficiency is best gauged by its being non-obtrusive. It is only when things are going wrong that the machinery is heard to creak, and wisdom suggests that it is much more satisfactory to prevent a loss than to make it good. The same principles, as enunciated above, apply to stores as well as cash, for the big subject of the public account is, in effect, only the regimental account writ large. Size is merely a relative matter, and will of itself have no power to confuse an accounting officer so long as he clearly understands on which side of an account each entry has to be made, and if he will then keep steadily in mind the fact that double entry as here explained affords an infallible check upon the accuracy of his accounts, while a balance sheet discloses the solvency or insolvency of the company, the institute, or the individual, he should have no difficulty in discharging accounting duties not only without anxiety, but with credit to himself and satisfaction to those to whom the accounts are rendered.

MORE ACCURATE METHODS WITH FIELD ARTILLERY.

By MAJOR H. ROWAN-ROBINSON, R.A.

DURING the past decade the progress of artillery science has kept pace with other modern developments, and engines of war have become at once more powerful and more accurate. But the most striking advance in the science has lain in the improvements in methods of shooting rather than of gun manufacture; and this has been especially noticeable in the Navy and in coast defences. The difficulty of distinguishing, in battle, between the rounds fired from the various batteries and ships was the principal cause of the introduction of a system which dispenses to a great extent with ranging and proceeds at once to effective fire. Other factors were the limited life of heavy guns, the restricted carrying capacity of ships and, in the case of coast defences, the short time a rapidly-moving target remains in an illuminated area. The system has not yet been applied to field artillery. It is proposed in this article to consider the possibility and advisability of such application. Over sea-ranges direct hits with the projectile are always required, whereas over land-ranges, shrapnel-fire is normally used; and, as the forward effect of shrapnel is about 300 yards, it can be seen that greater accuracy is required from coast batteries than from field guns. On the other hand, conditions in coast defences lend themselves naturally to the attainment of greater accuracy than conditions in the field. Targets are better defined; there is a solid platform for gun and range finder, and the range itself—namely, the sea—is of the very simplest kind. Hence accurate range-finding and regular shooting may be expected. As regards elemental conditions, therefore, matters tend to equalize themselves: the coast gun, to be effective, is required to shoot more accurately than the field gun, and it does so, whereas with the field gun difficulties of range finding, doubtful gun platforms and difficult observation render pin-point accuracy no easy matter, and here the long sweep of the shrapnel bullets helps to minimize the disadvantages.

In the Navy and in coast defences it was decided, owing to conditions mentioned in the first paragraph, that an even greater accuracy was required than had previously been attained. The present system of initial corrections was therefore introduced, and has, unquestionably, brought about an immense

improvement in shooting, and has done everything that was required of it. Now to show that this system, either in its present or some modified form, should be applied to field artillery, it will be necessary to prove:—

(a) That it is possible to apply it.

(b) That there are solid advantages to be gained by its application.

As regards (a):—Initial corrections involve a certain number of calculations: a fall in barometer and a rise in temperature by decreasing the density of the atmosphere cause a projectile to range further; a rise in temperature has, moreover, the additional effect of heating the charge and thereby increasing the muzzle velocity. In the Navy and in coast defences plenty of time is usually available before action, and cover, tables and chairs are at hand, so that the work can be carried out in comparative comfort, and, consequently, with considerable accuracy. In the field there is also plenty of time available. When an encounter battle is imminent or an attack is intended, reports from the front and the bicker of musketry will give, as a rule, ample warning of the approaching battle; in the defence, the conditions approximate to those in coast batteries. In any case, however, the element of comfort will be absent and calculations will have to be made in the saddle, or, more usually, by the roadside. They should, therefore, be of a simple nature, and can be made so without serious inaccuracy. In fact, if the charge and air temperature be considered equal and grouped together, a card could be constructed showing the alteration in range for every change in temperature of 10° F., and every change in height of barometer 1" at all probable fighting ranges, and from this the necessary correction could be calculated in a few seconds. The effect of wind should also be taken into account when plenty of time is available before the opening of fire, and the correction within wise limits could also be shown on the card. The loss of muzzle velocity, due to wear, is so small in field guns that it may be omitted, though doubtless, in a prolonged campaign the rifling would get deeply scored, projectiles would become unsteady, and, consequently, the ranging power of the gun would be reduced.

It is objected that these calculations will make battery commanders slow, and that slowness is, above all things, to be avoided in Q.F. batteries. The obvious answer is, of course, that the *raison d'être* of a Q.F. battery is not to fire quickly but to get to effective fire quickly. But there is yet another answer. Nothing leads to slowness so much as lack of confidence, and lack of confidence will naturally be engendered if guns, given good range finding and good laying, do not shoot in accordance with the range scales. In coast defences the system, far from making the battery commander slow, has quickened him up greatly, for he knows that his first rounds will fall near the

point to which the range finders have taken the range, and that the correction, if any, that he must apply will probably be under 100 yards.

Exception is also taken to the system on the ground that it will necessitate the carrying of barometers and thermometers. This can hardly be seriously intended in these days of No. 7 Dial Sights and No. 1 Carriers, for an aneroid barometer can be carried in a watchpocket, and a thermometer takes up very little more room. Moreover, even a barometer is not a necessity, for the variations in pressure caused by weather changes are usually of small account, and a close approximation to accuracy can be obtained by determining the reading from the map, as is done in the case of the corrector.

The third point concerns the burning of the fuse—a matter that does not enter into coast defence calculations, but is of vast importance in the field. As the fuse burns longer under the same conditions that bring about an increase of range, namely, a decrease of air density and a following wind, it corrects itself automatically for these conditions, not, indeed, entirely, but on a rough average, to about one-third of the full amount. And, as any reduction in the size of the correction entails a corresponding reduction in the average possible error, it follows that the system proposed will render rather more easy the finding of the fuse.

The doubts as to the possibility of application of the system having now been solved, the question of its advantages may be debated. At our summer practice-grounds the necessity for any initial correction has never been made clear, because the conditions there vary but little from those under which the range tables were compiled. Still, even at Salisbury Plain, according to a report that appeared in the *R.A. Journal* of November last, of some grouping trials, the range due to a given elevation was found to increase, as the sun grew hotter, at the rate of 25 yards an hour, up to a maximum of 100 yards. But if we turn from practice-camps to the theatres of recent warfare, the necessity for corrections becomes more apparent. Considering, in all the following examples, a range of 4,000 yards, the corrections required would have been:—

In the South African War, on a rough average, shorten 300^x; in the Libyan War, shorten 200^x; at the action of Guru in Tibet, shorten 600^x; before Chataldja, during the winter, lengthen 150^x; in Manchuria, between the summer fighting in the Fen-shui-ling and the winter battles in the plains, shorten 400^x to lengthen 200^x. The examples chosen, it will be noticed, are not abnormal, for they are drawn from every modern campaign.

It has been argued, however, that these corrections are of no importance, because the gun will soon find the true gun-range of the day. This is, of course, to beg the whole question; if the gun is the best range finder why all this bother in the Navy and in coast defences about initial corrections? The gun

on a fixed platform is quite as good a range finder as a gun anchored by its trail. Either gun uncorrected will no doubt eventually find the range, and, as was indicated in dealing with the respective accuracy requirements of the two types, either gun should find it in about the same time. In the Navy and in coast defences that time was considered too long. This fact, added to the difficulty of distinguishing, during ranging, between rounds fired from various batteries, combined with the waste of ammunition during the same process, caused the introduction of the present system. Let us see if the same or similar inducements can be offered to the field artillery.

To take the most important first—the matter of distinguishing between the rounds. If the artillery of a division, with plenty of time at its disposal, is engaging stationary targets, has had definite zones or objectives allotted to brigades or batteries and is under complete control, that is, assuming all things to be perfect and favourable, it may be possible to allow battery after battery to range successively on the targets allotted in such a fashion that the process of ranging from one battery will not interfere with that from another. Can we, however, always expect the most favourable circumstances? The ground will not always lend itself to perfect control or to the clear definition of objectives, and, therefore, many batteries may have to range at the same time and often at the same target. Time may also be pressing, and, when that is the case, the tendency will be to push batteries quickly into action and to let each carry out its own ranging independently. And, again, the target may not be stationary, and no battery wishing to engage a moving target will wait until another battery gets the range.

It would appear, therefore, that, though there will be many occasions on which batteries will be able to range successively, there will be many others on which this will be impossible. In the latter case, the initial correction, though not so important as with coast guns, will prove decidedly helpful.

Let us now go back to another of the factors—time. In every campaign a few—a very few—"sitters" may be expected, such as batteries coming action in the open, infantry in assembly formation or in column of route. It fell to the lot of the Japanese guns on the Mo-tien-ling to engage such a target, when, one early morning, the mists suddenly rising, disclosed a heavy Russian column ascending from a valley some 3,000 yards away. If the "sitters" can only be severely punished, the enemy will become imbued with a wholesome respect for our artillery, that will act as a drag on all his later operations.

This is just a case where the power of a Q.F. battery can be utilized to its utmost; but the time to effective fire must be short. Half a dozen ranging rounds and an enemy's column will have scattered, every man to his own bit of cover. If, under existing conditions, ranging be omitted, fire will often be ineffective. To deal fitly with such targets the gun-range

must be known beforehand, and that can only be by the use of the initial correction.

The last factor mentioned as determining the introduction of the system into the Navy and coast defences concerns the expenditure of ammunition. It will be seen at once that economy in ammunition is, except as regards wear of guns, more important by far in the field than in the Navy or in coast defences, for the difficulties of transport and replacement are infinitely greater. Manchurian projectiles had travelled 4,000 miles by rail, and South African projectiles 6,000 miles by sea and hundreds of miles by rail before they were fired. In the latter case, with the limited capacity of train and truck-wagon the question was always arising as to whether ammunition, boots, saddles or supplies should be sent forward to the troops. An 18-pounder battery can fire away in a few seconds the equivalent in weight of many hundred rations, and a 60-pounder shell weighs more than many boots—and how often it occurs that troops are immobilized for lack of supplies and boots. Consider then the consequences had the number of ranging rounds fired in South Africa or Manchuria been reduced by half. One of the three causes that determined Kuropatkin to retreat from Liao-yang was scarcity of ammunition. Or again, think of Chatakdja, where replacement of ammunition became impossible owing to the state of the roads, and the victorious Bulgarian Army was consequently reduced to a state of impotency.

The three factors that led to the introduction of the initial correction system have now been dealt with, and it has been shown that two of them apply with rather less force to field than to coast artillery, and one with rather greater force. There are strong grounds, therefore, for its introduction; and that its application will present no great difficulty has been proved; there remains only the necessary steps to bring it into being. On page 149 F.A.T., 1912, some indication of its necessity is given, but no guidance as to calculations. The insertion in the new edition of the necessary figures and of a pattern correction card is all that is required—an inexpensive change.

It must not be expected that the system will work wonders, as the rather optimistic tone of this article might lead one to expect. There is no magic in it; it will affect the shooting at our practice-camps very little, as the corrections there will never be large. But though it may not improve our practice-camp results greatly, it will do much to prevent our shooting from deteriorating when conditions far removed from the normal are met with in war. We are providing ourselves with many expensive instruments—the No. 7 Dial Sight, the No. 1 Carrier, the one-man range-finder, the No. 3 Director—in the hope of achieving accuracy, and yet with all these and with a perfect gun, perfect laying and perfect range-taking, our first rounds may be 300 or 400 yards out. Should we not go one step further in the removal of all removable causes of inaccuracy?

NAVAL NOTES.

BRITISH EMPIRE.

APPOINTMENTS, PROMOTIONS AND RETIREMENTS.—The following were the chief of these events during December :—

APPOINTMENTS.—Captains V. B. Molteno to "Antrim," as Flag-Captain to Rear-Admiral W. C. Pakenham; W. Bowden-Smith to "Russell," as Flag-Captain to Rear-Admiral S. Nicholson; R. G. Corbett to "Algerine," as Senior Naval Officer on West Coast of America; N. C. Palmer to "Conqueror"; D. R. L. Nicholson to be Commodore, 2nd class, in command of H.M. Yachts; R. W. Johnson to "Europa" for voyage out and home; J. S. Dumaresq to "Shannon," as Flag-Captain to Rear-Admiral C. E. Madden; A. C. Bruce to "St. George"; H. A. S. Fyler to "Agamemnon"; R. W. Glennie to "Mutine"; G. W. Vivian to "Sirius"; C. R. de C. Foot to "Cornwallis"; F. E. C. Ryan to "Queen," additional, as Chief of Staff to Vice-Admiral Sir Cecil Burney; W. M. Ellerton to "Cornwall."

PROMOTIONS.—Captains A. C. Leveson (December 1st), S. R. Fremantle (December 7th), H. F. Oliver (December 8th), J. P. Rolleston (December 13th), and G. C. A. Marescaux (December 15th), all to be Rear-Admirals; Commanders to be Captains (December 31st):—C. Tibbits, P. H. Warleigh, F. H. Mitchell, H. Edwards, C. D. S. Raikes, J. E. Cameron, J. T. Bush, E. H. Rymer, H. P. E. T. Williams, V. E. B. Phillimore, C. S. Townsend, C. M. Staveley, J. E. T. Harper, J. D. Allen, R. G. D. Dewar, H. R. Norbury, F. Larken, A. C. S. H. D'Aeth, E. A. Taylor, W. R. Napier; Lieutenants to be Commanders (December 31st):—J. A. Shuter, G. C. Pigou, F. C. Vaughan, J. D. Nares, C. A. Fremantle, R. H. R. Mackay, G. L. Massey, C. E. Cundall, M. Dasent, H. L. Boyle, H. S. Lecky, B. G. Washington, G. F. W. Grayson, R. A. Richards, H. W. C. Hughes, N. H. Rankin, G. Mackworth, R. St. P. Parry, A. Lambert, H. G. H. Adams, A. N. Stancomb, B. W. L. Nicholson, C. W. Round-Turner, E. R. Jones, T. Fisher, A. L. Gresson, R. H. D. Townsend, R. G. Hervey, R. A. S. Hill, H. J. S. Brownrigg, F. M. Austin, D. W. O'B. Forsyth, The Hon. B. T. C. O. F. Mitford, R. G. Fane, W. A. Egerton, G. B. Lewis, A. Rice, H. C. Halahan, W. Scott. (January 1st):—N. F. Osborne, S. B. Boyd-Richardson.

RETIREMENTS.—Rear-Admiral W. H. Baker-Baker (December 1st), Admiral Sir F. C. B. Bridgeman (December 7th), Admiral John Denison (December 8th), Admiral Sir A. L. Winsloe (December 13th), Vice-Admiral Sir C. R. Keppel (December 15th).

THE MEDITERRANEAN CRUISE.—The squadrons which were at the port of Athens at the end of November parted company on leaving the Piræus. Those forming part of the Mediterranean Fleet, under Admiral Sir Berkeley Milne, dispersed to Corfu, Platea and Malta in pursuance of their usual

routine. Those detached from the First Fleet in home waters, under Vice-Admiral the Hon. Sir Stanley Colville, continued their cruise to Malta, Naples, Toulon, Barcelona, and Gibraltar. Leaving Malta on December 6th, Admiral Colville's ships, which included the "Collingwood," "Bel-lerophon," "Superb," and "Temeraire," with the light cruiser "Bellona," of the First Battle Squadron, and the "Southampton," "Active," "Amphion," and "Fearless," of the First Light Cruiser Squadron, were at Naples from December 8th to 11th. There was much reciprocal hospitality shown by the Italian officers and authorities, and many excursions ashore were made by the visiting officers and men. The Admiral journeyed to Rome to hand the King of Italy a letter from King George. Toulon, which was the next port of call, also lavishly entertained the squadrons from December 13th to 16th. The French Second Squadron was present, under Vice-Admiral Marin-Darbel, with whom the British Admiral exchanged visits, as he did with the Maritime Prefect, Vice-Admiral Chocheprat. A ball was given by the Municipality, and there were several luncheons and dinners on board the French ships. In a telegram sent to the French President, King George expressed his "sincere thanks for the hearty welcome given to the British Fleet by the town of Toulon," and said that "this fresh proof of the intimate relations which so happily exist between the two countries has caused me lively satisfaction." The squadrons were at Barcelona from December 17th to 20th. Here a banquet was given by the British Chamber of Commerce, and the Governor, the Mayor, and other authorities attended, while the entertainment programme also included a gala performance at the Lyceum Theatre. The vessels arrived at Gibraltar on December 22nd, and remained there for Christmas Day, leaving on the 26th for Devonport, where they arrived on the 30th, after a rough passage, with snow and hail squalls and high head seas, across the Bay of Biscay. The cruise had occupied a full two months, having been extended a little owing to the visits to French, Spanish, and Italian ports.

THE "NEW ZEALAND'S" RETURN.—The battle-cruiser "New Zealand" arrived at Devonport from her cruise round the world on December 8th. She had been absent from England since February 6th, and in the ten months had steamed 45,319½ miles, consuming over 30,000 tons of coal. Her anchor had been dropped in 50 harbours, and the number of people who had visited her amounted to 578,937. To Captain Lionel Halsey, a telegram was despatched on the arrival of the ship from King George, which read: "I offer you, your officers, and ship's company, a hearty welcome on your safe return home after a most successful cruise, during which you have visited so many parts of the Empire. I have followed your cruise with the greatest interest." His Majesty also conferred upon Captain Halsey the C.M.G. A complimentary luncheon to the officers of the vessel was given by the Navy League on December 16th, at which the First Lord of the Admiralty was present. In his speech, Mr. Churchill said that the gift of the "New Zealand" by the Dominion of New Zealand to the Mother Country at a time of serious crisis was one of the greatest acts of far-seeing imagination which any modern State could claim credit for. At the places visited, the vessel had left behind, said the First Lord, the impression of one of the great modern instruments of war of the highest efficiency, manned by men who knew how to use them; and an impression of that manly spirit of courtesy and fair play which was always regarded as characteristic of naval officers of all ranks. On December 19th, a White Paper was issued relating to the cruise, in which were

published Captain Halsey's reports on the reception accorded to the ship at the places visited. On the conclusion of the tour of New Zealand ports, Captain Halsey wrote:—"I wish to say how greatly I was struck by the intense loyalty and patriotism that was displayed all over the Dominion, and I am quite positive that this cannot be exceeded anywhere. I submit that the visit of this ship has done a great deal to make the people realize what the naval power of the Empire means and how necessary it is to have a strong and united Navy. Also, I am of opinion that could there be an Imperial Squadron which would periodically visit the Dominions an immense amount of good would accrue to the Empire." The correspondence in the White Paper concluded with a letter from the Admiralty to the Commander-in-Chief, Devonport, noting with much satisfaction the universal testimony of the high opinion which the officers and men earned at every port of visit, and the exemplary conduct of the crew; and directing that an expression of their lordships' approbation should be conveyed to all concerned for their behaviour. The Admiralty also desired Captain Halsey to be informed of the intimation received from the Secretary of State for the Colonies of the Secretary's appreciation of the services which Captain Halsey had rendered to the Colonial Office.

SHIPS AT MEXICO.—Besides the "Suffolk" and "Berwick," which were ordered to Mexican waters in the middle of November, the "Hermione" left Jamaica on December 9th for Vera Cruz, where she arrived on the 14th. The "Lancaster" left Jamaica on the same day as the "Hermione" for Belize, British Honduras. An official statement issued by the Secretary of the Admiralty on December 29th said that the vessel arrived in Mexican waters on December 12th owing to reports that armed parties of Mexicans were crossing the frontier into British Honduras. Parties of bluejackets and marines were therefore landed "to assist in maintaining order and to see that British territory was not used for illegal purposes." As regards the presence of the "Suffolk" at Tampico, the British residents there addressed a letter to Rear-Admiral Sir C. Cradock before the vessel left for Vera Cruz on December 19th, conveying their sincere thanks for the prompt and timely action taken for the protection of British lives during the attack on the town. On the Pacific side, the "Shearwater" arrived at San Diego on December 7th, at Ensenada on the 11th, and at Mazatlan in the following week.

LAUNCH OF THE "TIGER."—The battle-cruiser "Tiger," the last armoured ship of the 1911-12 programme, was launched at the yard of Messrs. John Brown & Co., Ltd., Clydebank, on December 15th, Lady Helen Vincent performing the naming ceremony. She was the tenth British battle-cruiser to be put afloat, including the "Australia" and "New Zealand." According to a speech delivered at the luncheon after the launch by a director of the building firm, the "Tiger" will be the largest, swiftest, and most powerful battle-cruiser yet designed for the British Navy. Another representative of the firm stated that the "Tiger" had taken the Clyde 18 months to build, whereas a smaller but not very different vessel built by a friendly Power had taken only 15 months, and he issued a word of warning in regard to the importance of this point. "It was the Power that was able to put most rapidly a modernly-equipped vessel into the water, ready for action, that was going to be the best prepared for dealing with difficulties that a country might encounter." According to unofficial particulars, the "Tiger" will have a displacement of 28,000 tons, Brown-Curtis turbine engines of 100,000

horse-power, a speed of 28 knots, eight 13.5-inch and twelve 6-inch guns, and coal and oil for fuel.

HEALTH OF THE NAVY.—The Report of the Health of the Navy for 1912 was issued as a Blue-book (Cd. 7140) on November 22nd. It shows a continuous improvement in the general health of the fleet as compared with the preceding five years. The case ratio and average loss of service were both lower, but there were slight increases in the final invaliding and death ratios. The total number of cases of disease or injury was 76,815, out of a total of 119,540, which was at the rate of 642.58 per thousand, a decrease of 24.1 as compared with the average ratio for the preceding quinquennium. The average number of men sick daily was 3,008.23, a decrease of 2.51 per thousand. The total finally invalided was 2,023, or 16.92 per thousand, an increase of .48. There was a decrease of 13.83 per 1,000 in the number of venereal cases.

FIRE AT PORTSMOUTH DOCKYARD.—A serious fire occurred in Portsmouth dockyard on the evening of December 20th which resulted in the destruction of the sail and flag lofts, rigging house, and semaphore tower. Two signalmen on duty in the latter lost their lives. The fire was first seen from the "Queen Mary," which was alongside the south railway jetty. It began in the sail loft and spread very rapidly. The sail and rigging lofts were 134 years old and the semaphore tower approximately 100 years old, the internal structure being timber throughout, including the roof. There were three men on duty in the semaphore tower, who tried to reach the flats on the top of the living room, but owing to the thick smoke two of them were suffocated before they could do so, the third having a narrow escape. The work of the dockyard police, fire brigades, and fire parties landed from the ships to cope with the fire and render aid by removing inflammable stores from its vicinity was commended by an official order issued by the Commander-in-Chief. A memorial service for the men who were killed was held in the dockyard church on December 24th, after which mourners and congregation proceeded to the scene of the fire, where the concluding prayers were read, a firing party from the "Neptune" gave three volleys, and the "Last Post" was sounded.

THE WAR STAFF.—The selection was announced on January 1st of the officers who will take the 1914 War Staff Course, beginning on February 21st. The list included one commander, ten lieutenants, and one marine officer. This is the third of the courses which have been held since the inauguration of the War Staff scheme on January 8th, 1912. In the 1912 and 1913 courses there were 12 lieutenants and three marine officers, or three more candidates than will form the group for 1914. In accordance with the practice of appointing officers direct to the staff, without undergoing a qualifying course, to make up the number required until such time as there is a sufficiency of officers who have passed through the staff course at the War College, six commanders and three marine officers were selected for the purpose on January 1st. These officers formed the fifth batch of additions to the staff, and, including the two groups who have qualified, there are now about 100 staff officers available.

AUSTRIA-HUNGARY.

NAVAL ESTIMATES.—The Naval Committee of the Hungarian Delegation adopted the Estimates for 1914 on December 2nd. A statement was made by the Marine Commandant, Admiral von Haus, in which he regretted

that credits for ships to replace the "Monarch" class had been deferred "to better times" by an understanding with the War Minister. He announced his adherence to the programme of his predecessor, Count Montecuculi, which provided that the Navy, by means of "successive substitutes for worn-out ships incapable of meeting present exigencies," was to be kept to a numerical strength as follows:—16 battleships, 12 cruisers, 24 torpedo-boat destroyers, 24 torpedo-boats, 12 submarines, eight monitors, and some training ships. The Marine Commandant referred to the quality of the Dreadnoughts in service as entirely satisfactory. In the course of the debate on the Estimates on December 3rd, Admiral von Haus said that he considered the reproach that ships of the "Monarch" class still formed part of the fleet to be entirely comprehensible and justifiable.

BRAZIL.

THE "RIO DE JANEIRO."—The destination of this new battleship has been the subject of various reports since the decision to sell her was arrived at on October 16th. A correspondent of the *Daily Telegraph* stated in that journal on November 29th that negotiations were practically concluded between the Italian and Brazilian Governments for the acquisition of the vessel by the former. The correspondent added that the ship had been offered to the British Admiralty, who found that, though very powerful, she did not fit in with their scheme of construction, and to Russia, Japan, Greece, and Turkey, all of whom found an inconvenience or an obstacle in the circumstance that the first condition of the sale appeared to be the immediate refunding of the large sum already spent by Brazil upon the vessel. The "Rio de Janeiro" is due for completion during 1914, and is specially notable as being the only battleship built or building to be armed with fourteen 12-inch guns, which she carries in twin turrets. On December 30th, it was stated definitely that the vessel had been sold to Turkey.

FRANCE.

NEW MINISTER OF MARINE.—The resignation of the Cabinet of M. Barthou on December 2nd, following a defeat in the Chamber on the question of the immunity of the new Rente from taxation, brought about a change at the Ministry of Marine. In the new Cabinet formed by M. Doumergue, the Minister of Marine is M. Monis, who was Prime Minister for some four months after the resignation of M. Briand in 1911. According to the Paris Correspondent of the *Naval and Military Record*, M. Monis has appointed Captain Salaün, a young officer who displayed exceptional organizing power as a flag-captain and as head of the Channel Flotillas, to be his *Chef de Cabinet*. This is the second change at the Ministry of Marine during 1913, as it was only in January last that M. Baudin assumed office in the Barthou Cabinet.

NAVAL ESTIMATES.—The Naval Budget for 1914 amounts to £25,387,306, being an increase of about four and a half millions sterling on that of 1913. In regard to shipbuilding, only one instead of two battleships will be begun during 1914. The Navy Law of February 13th, 1912, provided for two, but the naval manœuvres held recently having shown an imperative need for new scout-cruisers, three vessels of this class will be built in the place of a battleship. The other battleship is to be called the "Bearn" (not the "Vendee," as formerly stated), and her construction

is to be accelerated, the keel being laid in January. She will be the fifth unit of the "Normandie" type, which, with the three "Bretagnes" of 1912, will make up a squadron of the line in accordance with the new plan of having eight instead of six battleships in the seagoing squadrons.

PROJECTED BATTLESHIPS.—The second battleship allotted to the year 1914, but the construction of which has now been postponed until the following year, will be the first of a new type, plans for which were reported early in December to have been approved by the Superior Council of the Navy. The displacement will be 29,500 tons, and the length 623 feet. The main armament will include sixteen 13.4-inch guns of an improved type in four quadruple turrets, or a larger number of heavy guns than has ever yet been mounted in a battleship of the Dreadnought era, built or building. The Brazilian "Rio de Janeiro" has fourteen 12-inch guns, but no other ship, so far as is known, has more than twelve, the general tendency being to increase the calibre rather than the number of the weapons carried. The secondary armament of the new French ships will include twenty-eight 5.5-inch guns. There are to be four in the class altogether, and the names allotted to them are "Tourville," "Lyons," "Lille," and "Duquesne."

PERSONNEL.—An important item in the new Estimates is the increase of the personnel by 4,351 officers and men. Referring to the manning policy of the French Navy, *The Times* Paris Correspondent wrote in that journal on December 9th:—"The reconstitution of the French Navy and, in particular, the entry into commission of four large battleships of the "Jean Bart" type have demanded more men for the crews than the ordinary means of recruiting have been able to supply. The number of men obtainable in coastal districts by the *Inscription Maritime* is strictly limited, and measures have in consequence been taken to extend the scope of the organization for recruiting volunteers in inland Departments, and, particularly, in the big industrial towns, with a view to enlisting men with the necessary mechanical knowledge. Forty-three new recruiting offices have been opened, and the naval career has been advertised by means of posters and lectures, with the result that 6,500 volunteers have already been received for the Navy since the beginning of the year, against 4,220 in 1912."

MEDITERRANEAN CRUISE.—The visit of the First Squadron, under Vice-Admiral Boué de Lapeyrère, to the Piræus at the same time that the British ships, under Admiral Sir Berkeley Milne and Vice-Admiral the Hon. Sir Stanley Colville, were there was duly carried out from November 28th to December 5th. The fleet vessels, which also included a destroyer flotilla, under Rear-Admiral Nicol, anchored off Phaleron. The King and Queen of the Hellenes reviewed the fleet on November 30th, and afterwards took luncheon on board the "Voltaire," the flagship. Their Majesties were also present at a reception given on board the Greek cruiser "Averoff" to the French and British officers. There was also reciprocal entertaining between the latter during the week that the combined fleets were off Athens. The French Squadron arrived at Corfu on December 13th, and was again cordially received.

TARGET SHIP SUNK.—The old battleship "Hoche" was sunk on December 2nd off Toulon whilst being used as a target for firing practice by the "Jaureguiberry" and "Pothuau." A large hole in the hull of the vessel was made by a shell, and although the latter was only a dummy filled

with sand, it was impossible to prevent the ship going down. The "Hoche" was a vessel of 10,950 tons, launched in 1886.

GERMANY.

BATTLESHIPS' FOREIGN CRUISE.—The battleships "Kaiser" and "König Albert" left Wilhelmshaven on December 9th for the cruise arranged for them to West Africa and South America, referred to last month. They were accompanied by the light cruiser "Strassburg." The division is under the command of Rear-Admiral von Rebeur-Paschwitz, who was the German Naval Attaché at Washington from 1898 to 1902, and commanded the cruiser division, of which the "Moltke" was flagship, which visited America in 1912.

LAUNCH OF THE "LÜTZOW."—The battle-cruiser "Ersatz-Kaiserin Augusta" was launched from the Schichau yard at Danzig on November 29th, and was named the "Lützow." She belongs to the 1912 programme, and is understood to have been laid down in September of that year. No official, and very few unofficial, particulars have been published concerning the vessel's design. Her displacement is said to be 28,000 tons, her speed 28 knots, her armament eight 12-inch and twelve 5.9-inch guns, and her main armour belt 11 inches in thickness. She is the sixth battle-cruiser to be launched for the German Navy, and the first to be built by the Schichau firm, the "Von der Tann," "Moltke," "Goeben," "Seydlitz," and "Derfflinger" having been constructed by Messrs. Blohm and Voss, of Hamburg.

NAVAL ESTIMATES.—The 1914-15 Estimates were presented to the Reichstag on November 25th. They showed that the policy of the Navy Office continues to be based on the Navy Law as amended in 1912. Two new armoured ships figure in the shipbuilding votes, the battleship "Ersatz-Friedrich III.," for which £350,000 is allotted during 1914-15, and a battle-cruiser, the "Ersatz-Victoria Luise," for which £300,000 is taken. Provision is also made for two oil-carrying vessels, one each for Wilhelmshaven and Kiel. Among minor details, provision is made for the appointment of a German naval attaché to the South American republics.

LIGHT CRUISERS.—It was reported in November that the Imperial yard at Kiel had received the order for the construction of the light cruiser "Ersatz-Hela," and the Vulcan yard, Stettin, that for the construction of the "Ersatz-Gefion," both belonging to the current programme. These will be the twenty-sixth and twenty-seventh light cruisers of the "City" class respectively which have been built for the German Navy since 1902. The "Ersatz-Hela" will presumably take the place on the stocks of the "Graudenz," which was launched at Kiel dockyard on October 25th. Regarding the design of the latter, the Italian *Rivista Marittima* gives the following particulars:—Displacement, 5,530 tons; horse-power, 30,000; speed, 27 knots; and armament, ten 5.9-inch quick-firing guns. The last-named shows an advance upon the twelve 4.1-inch guns of the "Rostock" and her sister ships of previous programmes, and there is an increase of from 700 to 1,000 tons in the displacement also.

GREECE.

TAKING OVER CRETE.—The formal taking over of the Island of Crete took place on December 14th, when the Greek Fleet arrived off Canea,

and the King of the Hellenes, with the Crown Prince, Prime Minister, and a distinguished company, landed and proceeded to the Greek Cathedral for a solemn celebration. The Greek flag was then hoisted on Canea Fort by two veteran chiefs of the Cretan insurrections, and saluted with 101 guns by the fleet.

NEW MINISTER OF MARINE.—According to the *New York Herald* (Paris edition), there has been a change at the Greek Ministry of Marine. M. Stratos has resigned, and the new Minister is M. Domerdjis, who is only 35 years of age. He studied at the University of Athens, and in Germany and France, and was elected Deputy for Attica in 1911.

ITALY.

"SAN GIORGIO" REFLOATED.—After being considerably lightened, by the removal of the guns, ammunition, coal, stores, and parts of the engines, the armoured cruiser "San Giorgio," which went aground at Santa Agata, Straits of Messina, on November 20th, was refloated on December 10th, and proceeded under her own steam into harbour at Messina. Difficulties attended the salvage operations, and for some days before the vessel was got off the rocky shoal on which she struck, anxiety was felt owing to the prevalence of a strong wind in the Straits. As a result of the inquiry into the stranding of the ship, Rear-Admiral Cagni, who was the commander of the 2nd Division of the Second Squadron, and Captain Cacace, were placed on half-pay, and the officer of the watch and navigating officer were reported to have been placed under "simple arrest."

CRUISES OF SHIPS.—The battleship "Ammiraglio di St. Bon" was off the port of Athens during the visit of the British and French Fleets at the end of November and beginning of December. The vessel anchored in Phaleron Bay, and her commanding officer was among the guests at the reception held by King Constantine on board the "Averoff" on December 1st. At the same time that she was at Phaleron, a squadron, under the command of the Duke of the Abruzzi, visited Alexandria, and during the week it remained was hospitably entertained by the local and national authorities.

NEW BATTLESHIPS.—An important statement bearing on the new construction policy of the Italian Admiralty was made on December 20th by Signor Tedesco, Minister of the Treasury. The Government, he said, "intended to fulfil with due regard for economy the promises already made as to the Navy. The ordinary outlay on construction would be increased by 10,000,000 lire annually, so that by the year 1917-18 a total of 120,000,000 lire (£4,800,000) would be reached. That would permit of the laying down annually of one battleship and a certain number of auxiliary vessels." From this, it may be inferred that the four new battleships, "Dandolo," "Morosini," "Mazzini," and "Mameli," referred to last month, will not be laid down simultaneously, but at the rate of one each year up to 1917-18.

ORDNANCE MANUFACTURE.—The Ansaldo Works for the manufacture of guns and armour are being enlarged to supply the requirements of the next new battleships, but it will not be before next autumn that they will have received all the plant necessary for the purpose. The 15-inch guns will, it is reported, be constructed on the built-up principle, and will not be wire-wound guns.

JAPAN.

BATTLE-CRUISERS LAUNCHED.—Two battle-cruisers of the "Kongo" class have just taken the water for the Japanese Navy. On December 1st the "Kirishima" was launched at the yard of the Mitsu Bishi Company at Nagasaki, and on December 14th the "Haruna" was launched by the Kawasaki Shipbuilding Company's yard at Kobe. All four vessels of the squadron of battle-cruisers ordered late in 1910 have thus been put afloat. They took the water in good time: the "Hiyei," which was launched at Yokosuka dockyard on November 19th, 1912, being only 12 months on the stocks, the "Kirishima" a little over 20 months, and the "Haruna" 13 months. The original ship of the class, the "Kongo" herself, built by the Vickers Company, at Barrow, left England in August.

RUSSIA.

ORDNANCE RESOURCES.—A scheme by which the Russian Government has sought the co-operation of an English armament firm to enlarge the resources for the supply of ordnance to the Russian Navy was described in these Notes in July last. Particulars relating to the contract which has since been concluded between Messrs. Vickers, Ltd., and the Russian authorities were published in *The Times* on December 4th. In conjunction with leading banks in St. Petersburg, Messrs. Vickers have received a concession to establish extensive gunworks in Russia, and a company known as the Russian Artillery Works Company, with a capital of £1,500,000, has been formed. Tsaritsyn, an industrial town on the Volga, is the site for the new works, and projectiles and other naval and military munitions will be manufactured there as well as ordnance. The concession granted is for 15 years, and the new company, to which the Vickers' firm will be technical advisers, will have the sole rights, after the Russian Government's own works as at present constituted, to manufacture naval guns and field artillery of large and small calibre.

TURKEY.

DOCKYARD REORGANIZATION.—On December 2nd a contract was signed between the Ottoman Minister of Marine and a British group of manufacturers of naval war material, including the Armstrong and Vickers' firms, for the reorganization of the Turkish naval dockyards. A concession is granted to the new company formed for the purpose by which all the dockyards and naval arsenals, save those which may be constructed in future on the Red Sea and Persian Gulf, are to be reorganized, and the new company has the right to undertake private repairs. Technical and administrative control is in British hands, and will remain so by the inclusion of five British and four Ottoman directors on the board. A floating dock for the Gulf of Ismid, capable of taking the largest ships, is included in the scheme. In case of war, the Turkish authorities will re-assume control of the establishments. Writing on December 14th, *The Times* correspondent at Constantinople stated that the Turkish Government contemplated the engagement of another British Admiral, who would command the torpedo flotilla in war time. The Porte desired the services of a retired British officer who would renounce his nationality, become an Ottoman subject, enter the Turkish Navy as assistant to the

present naval adviser, and take the command of the fleet in war time, as Hobart Pasha did in the war of 1877-1878.

UNITED STATES.

SECRETARY'S REPORT.—The annual report of the Secretary of the United States Navy—the first issued by Mr. Josephus Daniels since he assumed office—was published on December 1st. The building programme recommended by the Secretary for the coming year consists of two Dreadnoughts, eight destroyers, and three submarines, which is “not a large programme, but a progressive one,” recommended with a view to a “well-proportioned” Navy. The proposal for a naval holiday is sympathetically discussed, but the Secretary suggests that no single nation, with large interests, can safely take a vacation in the building of battleships; a vacation must come through concerted action. “It is not a vacation we need,” he says, “but a permanent policy to guard against extravagant and needless expansions.” The excessive prices charged by private manufacturers of armour plate, guns and gun forgings, powder, torpedoes, and other supplies and munitions have led the Secretary to recommend appropriations for the erection of a Government armour-plate factory, and an increase in the torpedo works, powder factory, and gun factory. As regards armour, only three American firms make it, and their bids have often been identical to a cent, there being no real competition. These firms have supplied foreign Governments with armour at cheaper rates than the home Government, and are now furnishing armour for the Japanese “Haruna” at Kobe at a price of £81 a ton, compared to the price of from £101 to £88 a ton which they are charging for the armour of the American battleship No. 39. The Secretary also states that “there is every reason to believe that the agreement to maintain high prices among manufacturers is international.” Government control of its own oil fuel supplies is also advocated by Mr. Daniels for similar reasons. The superiority of oil over coal has been already demonstrated, he says, and is no longer a matter of experiment; on the other hand, the price of oil is steadily creeping upward, and to-day the United States Navy is paying over twice as much for its oil as it did in 1911. The only relief from the exorbitant and ever-increasing prices of the private companies which now completely control the supply lies in the control of oil wells and the refining of its own oil by the Navy Department. Mr. Daniels adds:—“By the time the Panama Canal is opened and the fleet begins frequenting the Pacific, the Navy should be producing its own oil from the Navy petroleum reserves in the Elk Hills and Buena Vista fields of California, and its refinery should be in operation. . . . This proposed step is no new departure, for the Navy now builds some of its own ships, maintains large industrial navy yards, a gun and a clothing factory—all of which are indispensable to the supply of superior articles for the Navy and for the control of prices from commercial concerns furnishing similar articles.” After referring to the tragedy of the year, the wrecking by underground pressure of the huge cofferdam structure of the new graving dock at Pearl Harbour on February 17th, the Secretary promises to ask Congress for advice in this matter. Among the paragraphs devoted to the personnel is one describing the scheme for allowing enlisted men to take the examination for assistant-paymasters in the Navy.

MILITARY NOTES.

BRITISH EMPIRE.

APPOINTMENTS, PROMOTIONS AND RETIREMENT:—The following are the chief of these events during December: Lieut.-General Robert G. Broadwood, C.B., is placed on retired pay; dated December 3rd, 1913. Consequent on the above, the following promotions to take place from the same date: Major-General Charles L. Woollcombe, C.B., commanding Highland Division Territorial Force, to be Lieut.-General. Colonel (temporary Brig.-General) Henry N. C. Heath, C.B., commanding 11th Infantry Brigade, to be Major-General. Colonel and Honorary Major-General Sir John Palmer Brabazon, K.C.B., C.V.O., to be Colonel 18th (Queen Mary's Own) Hussars, vice Major-General T. Phillips, deceased; dated November 10th, 1913. Lieut.-General Sir James W. Murray, K.C.B., to be General Officer Commanding-in-Chief, Scottish Command, vice General Sir B. M. Hamilton, K.C.B., K.C.V.O.; dated December 9th, 1913. Lieut.-General Robert Cecil Richard Clifford, C.B., Indian Army, Unemployed Supernumerary List, to be Colonel of the 22nd Sam Brown's Cavalry (Frontier Force); dated January 14th, 1914.

INCREASE OF PAY FOR OFFICERS.—A Royal Warrant was issued on December 31st, 1913, announcing increases of pay to officers of the Regular Army, and special provision for the assistance of men who are promoted from the ranks to a commission. The alterations came into force with the New Year.

The first list of increases applies to the

Cavalry of the Line,
Royal Artillery (except district officers),
Infantry of the Line,
West India Regiment,
West African Regiment,

and, so far as the initial rate of pay as major is concerned, to the Household Cavalry and Foot Guards.

The changes affecting these regiments are as follow:—

(1) The command pay of a lieutenant-colonel, Royal Artillery, and of the officer commanding a regiment of Cavalry of the Line, or a battalion of Infantry of the Line, shall be increased from 3s. a day to 5s. a day.

(2) A major after 24 years' service shall be granted an increase of 2s. a day.

(3) A major of Cavalry or Infantry (including the Household Cavalry and Foot Guards) with less than 24 years' service shall receive the rate of pay now given to a major after two years' service in the rank.

(4) A captain shall receive an increase of 3s. a day after three years' service in the rank, provided that he has at least 12 years' service.

(5) A lieutenant after six years' service shall receive an increase of 2s. 6d. a day, in lieu of the increase of 1s. a day now granted after seven years' service in the rank, provided that he is certified by his commanding officer as practically efficient in the command of men.

ENGINEERS AND ARMY SERVICE CORPS.—The following changes are also announced in the regimental pay of the Royal Engineers (except officers of the Coast Battalion) and the Army Service Corps:—

A lieutenant after six years' service shall receive an increase of 1s. a day, in lieu of the increase of 1s. a day now granted after seven years' service in the rank.

A captain of Royal Engineers shall receive an increase of 2s. a day after three years' service in the rank, provided that he has at least 12 years' service.

A captain of the Army Service Corps shall receive an increase of 1s. a day after three years' service in the rank, provided that he has at least 12 years' service.

COMMISSIONS FROM THE RANKS.—Special provision is made in the following terms for those to whom commissions are granted from the ranks:—

Whereas we desire to make it possible for an increased number of combatant commissions to be obtained by warrant officers and non-commissioned officers of our Regular Army;

Our will and pleasure is that the following special provisions shall be made for a warrant officer or non-commissioned officer granted a combatant commission as second-lieutenant in our Cavalry of the Line, our Infantry of the Line, or our Army Service Corps, under the regulations prescribed by our Army Council:

(a) He shall be granted an allowance of £150 in aid of his outfit.

(b) He shall receive a special addition to his regimental pay at the rate of £50 a year for a period of three years from the date of his commission.

(c) He shall, on being commissioned, if he has served for not less than three years in the ranks, receive the minimum rate of pay provided for a lieutenant of his arm of the Service.

(d) He shall be entitled to count not exceeding three years of the time which he has served in the ranks as service towards increase of pay.

An Army Council instruction which is issued with the Royal Warrant states that recommendations for promotions to second-lieutenancies in Cavalry, Infantry, and Army Service Corps of warrant officers or non-commissioned officers will, except in the case of candidates who have performed specially meritorious service, or distinguished service in the field, be entertained only on the following conditions:—

(a) The candidate for promotion must, before he is recommended—

(1) Give six months' notice to his commanding officer of his intention to sit for the qualifying examination in (b) (1).

(2) Not be of lower rank than unpaid lance-corporal or corresponding rank.

(3) Have not less than three years' service.

(4) Be not less than 21 years of age according to the age given on attestation.

(5) Hold a first-class certificate of education, or possess the qualifications which are accepted in lieu thereof, as laid down in the Army School Regulations.

(b) The candidate must, when selected—

(1) Have passed the examination in military subjects for candidates from the Special Reserve of Officers and the Territorial Force.

(2) Be under 23 years of age on April 1st for the April examination, on November 1st for the November examination referred to in (1).

(3) Have a clear regimental conduct sheet.

(4) Be unmarried; and

(5) Be physically fit for a commission.

FOUR-COMPANY BATTALIONS.—The following Special Army Order was issued on January 7th in regard to the adoption of the four-company organization in battalions of the Foot Guards and Infantry of the Line:—

1. Organization of an Infantry Battalion. (1) In continuation of Special Army Order of September 16th, 1913 (Army Order 323 of 1913), it has been decided that for purposes of administration the details of battalion headquarters (other than the battalion commander, senior major, adjutant, and quartermaster) and the machine-gun section, shall be posted to companies of the battalion as supernumerary to the establishment of platoons. Their distribution should be so arranged that the numbers so posted to companies shall be approximately equal. (2) The *personnel* allotted to battalion headquarters will be shown in War Establishments, Part 1., 1914, and in Peace Establishments, Part 1., 1914-15.

2. Infantry Training, 1911. In consequence of the reorganization of the Infantry this Manual is being revised, and will be ready for issue in due course.

In the meanwhile the training of the Infantry should be carried out in accordance with the spirit of the existing Manual, but in order to secure uniformity throughout the Army on certain doubtful points a provisional pamphlet has been approved, and will shortly be issued to all concerned.

THE HEALTH OF THE ARMY.—The Report issued early in this month covers the year 1912, and shows that the improvement recorded during the last few years in the health of the Army has been maintained. During the year under review there was a very slight rise in the ratio of admissions to hospital, accompanied by a fractional increase in the number of invalids, but at the same time the death rate and the average of "constantly sick" were lower than in 1911, while the decrease was greater than ever before in the ratio of admissions for such serious diseases as enteric fever, malaria, alcoholism, and venereal diseases. In 1911 the total inefficiency caused by sickness, as found in the number constantly under treatment, was 31.83 per thousand, while during 1912 it fell to 31.59.

Figures show results better and more unanswerably than bare statements. The following represent the respective proportions per thousand of strength of the troops in the United Kingdom and Overseas during the last four years:—

	Admissions.	Deaths.	Invalids sent home.	Invalids finally discharged.	Constantly sick.
1909.	504.8	4.10	10.34	8.65	28.86
1910.	443.1	3.44	8.53	9.11	25.38
1911.	421.1	3.47	8.71	8.09	24.28
1912.	426.3	3.26	8.42	8.25	23.72

In the United Kingdom the ratio for admissions to hospital was practically the same as for the two preceding years, while all other ratios

were lower, and it is now claimed that the general sick rates are so low, as compared with former years, that medical efforts can hardly hope to effect any further decrease, and that additional improvement in the health of the Army, as also the maintenance of the present satisfactory conditions, must be looked for from regimental officers, or from the men themselves.

In India there was a slight rise in the ratio of admission to hospital—524.7 in 1911 to 547.9 in 1912—but the death rate and the number of invalids were lower during the year under report, while the number of “constantly sick” was much about the same. The following shows the number of invalids sent home during the last four years:—1909—648; 1910—562; 1911—512; 1912—474.

During the 12 months covered by the report, 47,008 recruits were medically inspected, being a decrease of 1,170 from the number inspected in 1911. Improved trade is not the only, if indeed the chief, cause of the decline, for the Report brings to notice that “the seriousness of the emigration that is taking place is not generally realized, and the recruiter has an increasingly formidable competitor in the highly-paid emigration agent.” These Annual Reports do not contain any information as to the number of recruits who offer themselves for enlistment, but who never reach the presence of the medical officer—who are summarily rejected by the recruiter; but the figures seem to show that the ratio per thousand of final *medical* rejections is in the way to being reduced; thus in 1912 this ratio was 237.85, in 1911 it was 257.44, while for the years 1902-11 the average was 321.38. Unfortunately, however, the Report sees no reason to attribute this reduction to any improvement in the physique of the class which provides our Army recruits, but rather to improvement in recruiting methods—as in the initial examination by recruiters, the work of the medical examiner, medical inspection, and physical training. The present system of *depôt* physical training receives high praise, and many of what are called “borderland” recruits are trained on to become satisfactory enlistments, while a large number of minor physical defects are actually cured.

The following are among the most frequent causes of rejection, with the ratios per thousand of recruits inspected:—

Under chest measurement	...	...	...	...	29.23
Non-valvular disease of the heart	...	...	...	...	23.46
Defective or deficient teeth	...	...	...	...	22.44
Defective vision	...	...	...	...	21.08
Defects of the lower extremities	...	...	...	...	15.59
Valvular disease of the heart	...	...	...	...	13.55
Aural diseases	...	...	...	...	11.57

It will be noticed that the ratio of rejections for diseases of the heart—valvular and non-valvular—is high, 37.01 per thousand, and, according to the Report, in the disordered action of the heart “the excessive use of tobacco is considered at least to play a part.”

The recruits are stated to be in nearly all cases growing lads, a large proportion out of work and therefore in poor condition; this statement recurs annually, and there seems no prospect of any improvement in this respect, but it is satisfactory to learn that the medical authorities of the Army consider that all, or nearly all, these recruits develop—thanks to care and training at the *depôts*—into a thoroughly good and useful stamp of soldier.

THE ROYAL PATRIOTIC FUND CORPORATION.—A deputation from this corporation—chairman, the Right Hon. W. Hayes Fisher, M.P.—waited on the Secretary of State for War on November 26th to bring to his notice the gradual depletion of the Soldiers' Effects Fund. This Fund wholly consists of the produce of the estates of soldiers who die intestate and whose next of kin cannot be traced; but while intestacy has become very much less frequent of late years, and the sums available for inclusion in the fund are correspondingly diminishing, the expenditure is annually increasing owing to the very much larger number of cases brought forward by the War Office for relief. Ten years ago the income of this Fund was nearly £6,000, and the expenditure was something under £9,000; in 1912 the income was only £4,500, while the sum disbursed amounted to over £13,000. It has been estimated that in two years time from now the Fund will have come to an end unless something is done to replenish it. On the books of the Fund there are now 1,511 children and 251 widows receiving allowances, and these numbers are constantly being added to. In all cases these are the widows and children of soldiers who died in the service of their country, and who are considered worthy objects for assistance. Mr. Hayes Fisher, and others of the deputation who spoke, particularly pressed the point that at present these soldiers' widows and children are dependent for the support afforded them to "funds derived from the mere chance and haphazard of a number of soldiers dying intestate without leaving any traceable next of kin. . . that the fate in life of hundreds of widows and thousands of fatherless children of soldiers depends on whether the comrades of these soldiers had or had not made wills." The chairman urged that some scheme should be devised under which the nation should undertake and discharge the duty which now falls upon a rapidly diminishing Fund.

Colonel Seely, Secretary of State for War, addressing the deputation in reply, expressed his full sympathy and agreement with the views that had been put forward, and stated that it was indefensible that the relief of such deserving cases as had been cited should depend upon the accident of how many soldiers died intestate. He did not, however, think he would be right in pressing for the grant of a sum of money from the Treasury sufficient to place the Fund on a proper footing. He had no definite suggestion to make as to what particular action should be taken before the situation became more critical by reason of the further depletion of the resources of the fund, and said that he would like to hear opinions as to the advisability and desirability of an appeal being made to the public.

"HONOURS."—It will be noticed in this month's Army Orders that His Majesty The King has approved of the Black Watch (Royal Highlanders) and the King's Royal Rifle Corps being permitted to bear upon their regimental Colours or appointments the honorary distinction "North America 1763-64," in recognition of services rendered during the war against the Red Indians (Pontiac's Conspiracy).

The operations in question extended over a wide area of country bordering on and to the south of the Great Lakes, and were of a most arduous nature. In the summer of 1763 the Indians, under the leadership of Pontiac, a chieftain of exceptional ability and influence, treacherously attacked the outlying British forts, which were mainly garrisoned by detachments of the 1st Battalion 60th Royal American Regiment (now the King's Royal Rifle Corps). In many instances the garrisons of the

forts, and settlers in their neighbourhood, were barbarously murdered. Fort Detroit, an important post between Lakes Huron and Erie, was besieged for 15 months before it was relieved. Fort Pitt, another important strategical post on the Ohio River, was also invested, but was relieved by a force under Colonel Bouquet, Royal Americans, who defeated the Indians at Bushy Run after a severe engagement lasting two days. The 42nd (Black Watch), the 1st Battalion 60th Royal Americans (less the detachments garrisoning the forts) and the 77th, Montgomery's Highlanders (a regiment since disbanded), were present in this action.

Eventually, after a period of some 18 months of desultory warfare, the leaders of the various tribes involved sued for peace, and hostilities were concluded on the surrender of the principal chiefs as hostages, and the return of some 300 captives to the British camp.

AUSTRIA-HUNGARY.

MACHINE-GUN DETACHMENTS.—From December 1st, 1913, six new cavalry machine-gun detachments were created, and have been attached to the 1st, 2nd, 6th, and 15th Dragoons and to the 1st and 9th Hussars. The peace establishment of these detachments has been fixed at three officers and 56 of other ranks, with 51 horses.

A NEW REGIMENT.—From March 1st of this year a new pioneer battalion will be brought on the strength of the Army, being raised in Bosnia-Herzegovina, and consisting of three companies.

BELGIUM.

M. de Broqueville, Minister for War, has declared in the Senate that in December, 1917, Belgium will be able to place on a war footing an Army consisting of 168,331 men (not including officers) and 87,400 reserve and fortress troops. In other words, her Army will be doubled in four years.

ITALY.

THE HOSPITAL SHIPS IN THE LATE WAR.—From a report recently published by authority of the Italian Admiralty on the work of the two hospital ships, the "Re d'Italia" and the "Citta di Milano," during the Turko-Italian War, some idea can be obtained of the extent of the casualties during the campaign. These hospital ships had accommodation for 800 sick, were equipped with all the most up-to-date medical appliances, including X-ray installations, and the diseases which caused the most casualties were typhus and kindred complaints, while during the summer months, from June to September, there were many cases of dysentery and jaundice. In the "Re d'Italia" alone 11,112 cases of sick and wounded were treated during a total period equal to 41,580 days.

NUMBERS SENT TO NORTH AFRICA.—According to a statement published by the General Staff there were transported to Lybia in 1911, 90,000 men, and in 1912, 124,000; of the first, 70,000 were sent back to Italy, so that the actual number engaged in establishing Italian authority was 144,000, of whom 236 officers and 4,076 of other ranks were killed or wounded. According to the same report there were only 5,000 Regular Turkish soldiers in Tripoli, and 2,000 in Cyrenaica.

RUSSIA.

RETENTION OF RECRUITS.—The *Russki Invalid* of December 29th contains the following:—

"The retention of the rank and file of the Army on active service in 1912 was a favourable test for the preparation of the Army during the winter months. The men are usually discharged into the Reserve between November 14th and 28th—that is to say, a month and a half or two months before the date legally fixed. After their release the recruits are embodied in their respective regiments, which makes a considerable number of trained soldiers essential for the drilling of recruits. In consequence, regiments, during the winter months from November 14th to April 14th, are palpably weakened in their numbers during the first training of recruits.

"Such considerations, in conjunction with the increase in the armies of the important West European States, have led the War Department to have resort to the measure which gave such brilliant results last year, and enabled the fighting power of the Army to be considerably increased without special expenditure. The Minister of War intends to make the postponement of the discharging of soldiers into the Reserve a permanent institution by legislative means, and has found it necessary to order this postponement, on the strength of Clause 22 of the Defence Law, for the current year. The Imperial approval of the step was given on the 17th inst."

According to recent statements in the *Militärische Rundschau* and the *Internationale Revue über die gesamten Armeen und Flotten*, the following are among the projects which the Russian military authorities have in view: the creation of four new army corps, viz., two in Europe, one in the Caucasus, and one in the Far East. The headquarters of the two new European corps will probably be at Wilna and Warsaw, or possibly at Kieff and Odessa; the number of army corps in European Russia will thus be raised from 28 to 30. No details are yet to hand as to the number of infantry regiments to be created in order to furnish material for the new corps, but in regard to artillery, it appears to be intended to raise 24-36 additional field batteries, 4-6 batteries of field howitzers, 2-4 horse batteries, and one or two batteries of heavy howitzers, or a total of from 30 to 48 entirely new batteries of artillery. For the present there is no mention of raising more regiments of cavalry. The horse artillery are about to receive a new gun. The light field howitzer batteries have, it is stated, all now been armed with the 12 cm. Krupp howitzer, and there are enough available for the new batteries proposed. During 1912 and the early part of 1913, the heavy artillery was re-armed with the new 10.6 cm. gun and the new heavy howitzer of 15 cm., and there remain over 88 of the one and 116 of the other available for the arming of the new batteries now contemplated. Of the 39 engineer battalions, 11 only have each two companies of telegraphists, the remaining 28 having only one each; these are to have two each in future. It is proposed to raise three new railway battalions, thus increasing the number from 19 to 22.

SERVIA.

According to the statement of the Servian War Minister, the Army is to be forthwith raised to a peace establishment of 80,000 men. Among other matters to be taken in hand are mentioned the provision of barracks, the re-arming of the infantry, the supply of air-craft, and an increased artillery *personnel* to take over and man the guns captured during the war. According to reports in the Servian Press, seven officers, who served during the war, are to be attached for instructional purposes to the French superior war schools.

AERONAUTICAL NOTES.

BRITISH EMPIRE.

An Inspection Department for military aeronautical material has just been formed and will shortly commence work.

The duties of this Department will include the inspection, whilst under construction, of all aeroplanes ordered by the War Office, the testing and acceptance of all aeroplanes and engines on delivery, and the periodical inspection of all aeroplanes and engines in the Service.

Major J. D. B. Fulton, C.B., of the Royal Flying Corps (Military Wing), has been appointed Chief Inspector and will be assisted by Captain Bagnall Wild, (late R.E.), as Inspector of Engines, and Lieutenant G. de Havilland, R.F.C. (Special Reserve, late of the Royal Aircraft Factory), as Inspector of Aeroplanes, and Mr. A. S. Ellerton (late of the Royal Aircraft Factory) as Assistant Inspector.

The Headquarters of the Department will be at South Farnborough.

The fourth course of instruction at the Central Flying School concluded on December 17th. Eight naval and 17 military officers qualified, and have been appointed to the Royal Flying Corps. The standard of proficiency attained was high, and the course was only marred by the fatal accident to Major G. C. Merrick, D.S.O., R.A., on October 3rd, 1913.

CHINA.

A biplane has recently been constructed at the Nanyuan Aviation School entirely under Chinese supervision, while all the materials used, except the motor, were of Chinese make. The authorities are now making a series of tests prior to the acceptance of the machine by the General Staff.

GERMANY.

According to the statements in several German military papers the new steel airship, constructed on the "Unger" system, is to be provided with a special arrangement for the discharge of bombs. This will be attached to the lower part of the car of the ship and will resemble in appearance a torpedo tube. It will be loaded with bombs which can be discharged either deliberately, or in something of the nature of rapid fire, upon the objective upon which the tube has been directed.

ITALY.

An aviation school of instruction was opened, for officers, on January 1st of this year in the Flying Battalion. The course is to be divided into three parts: 1, theoretical and practical; a course of three months in Turin; 2, entirely practical in a flying school until the pilot's certificate is obtained; and 3, a practical course in the school until the student is certified as a competent flyer. These two last courses are not to last more than 12 months, and not more than 25 officers at a time are to be permitted to attend the first part of the course. Lieutenants must have at least two years' service, and captains must not have served more than five years in that rank. Students attending may belong to any arm of the Service, but must be either unmarried or widowers, while their weight is not to exceed 11 st. 12 lbs. They must have good sight, hearing, steady nerves and good lungs, and must not have anybody specially dependent

on them. Officers who have shown special aptitude by obtaining private diplomas, etc., will have first claim for selection to attend these courses.

A course of instruction with dirigibles begins on February 1st, for 15 officers of all arms: these must not be over 35 years of age and must possess the physical qualifications noted above.

JAPAN.

The Japanese ordnance authorities are now credited with the construction of a new gun for engaging aircraft. Its calibre is given variously as 12.6 and 5 c.m.; its greatest elevation is 65 degrees, its extreme lateral deflection is 180 degrees, while its range is 5,000 metres. The gun is drawn by a team of four horses.

RUSSIA.

The Russian Admiralty has commenced the construction of a new airship which is intended to serve as the first of a series. It is said to be a combination of the rigid and semi-rigid systems, and will have a gas capacity of 74,000 cubic feet.

There are at the present moment 11 flying companies in Russia, and it is proposed to bring the number up to 33. Russia already possesses 200 aeroplanes, and another hundred are on order, delivery of which has already commenced.

UNITED STATES.

It is proposed to send a Congressional Committee to Europe to study military aviation. In five years America has spent only £80,000 upon dirigibles and aeroplanes, and in that respect lags considerably behind Germany, France, and England. At the present time the United States has no dirigibles, only 17 aeroplanes, 19 military pilots, and 19 officers detailed for aviation duty. America is fully alive to the possibilities of aerial warfare, but when applications have been made for money to promote efficiency in that direction it has always been argued that "Europe is experimenting on a very big and expensive scale, and America can afford to wait awhile."

CORRESPONDENCE.

From POULTNEY BIGELOW, Esq.,

Bigelow Homestead, Malden-on-Hudson, New York.

December 31st, 1913.

Dear Sir,

It may interest you to learn that the original of your excellent frontispiece in the December number, entitled "The Battle of Bunker's Hill," hangs in the Art School of Yale University at New Haven on Long Island Sound. John Trumbull is the painter, a pupil and warm friend of Benjamin West, President of the Royal Academy—both Americans by birth, but British in the sense that Henry James and John Sargent owe their chief happiness to English conditions of life.

This picture of Bunker's Hill, besides illustrating admirably the best features of the classic school of art (then supreme), is valuable as a portrait study of the principal characters—for as a portrait painter Trumbull has had few equals and no superiors on American soil.

John Trumbull was born a British subject, in the Connecticut colony; graduated at Harvard and joined the American Army as adjutant in 1775—full of military zeal. His record was admirable, as anyone may learn who is interested enough to glance at the first two years of his life in camp. But in 1777—the year of Saratoga—he was stung by gross injustice on the part of his superiors and Congress and retired permanently from the war. He came to London in 1780 and from that time on drew most of his art inspiration from England, although his themes were mainly American. He lived 86 years—and so little was his genius appreciated during his life time, that he deemed himself happy when Yale University bought his magnificent collection of historical portraits for a paltry £200—per annum annuity!

John Trumbull's father was Colonial Governor of Connecticut, and a man of great learning and social worth. Washington valued his opinion highly, and the circumstance of his addressing his friend habitually as "Brother Jonathan" gave rise to the sobriquet which to-day has been partially supplanted by "Uncle Sam!"

In closing, permit me to venture the opinion that had John Trumbull commanded at Ticonderoga in the spring of 1777 Burgoyne's humiliation would have occurred earlier than it did at Saratoga.

Major Lees' interesting paper in the same December number, entitled "The True Account of Saratoga," would have been doubly interesting had it been many times longer. The word *True* weakens the title, for it implies suspicion regarding previous accounts, whereas the Life of Washington by Irving (Edition of 1856), can be read to-day by the historical student with a relish second only to that felt by the lover of graceful English. Major Lees has once more laid bare the inefficiency of Burgoyne—had he chosen he could have made such a picture of incapacity, petty jealousy and unmilitary behaviour on the American side as would make a modern Moltke marvel that the American War came to an end at all.

For the benefit of military students let me add that Fort Ticonderoga is to-day maintained practically in the same shape it had to the eyes of the gallant "Black Watch" in 1758 or to the soldiers of Burgoyne in 1777. It is perhaps the only example extant of Vanban construction that has not been modified past recognition, owing to the increasing power of artillery. The famous fort and its surrounding works are the property of a public-spirited American, Mr. S. H. P. Pell, whose ancestors held land here under the Stuarts. Mr. Pell has converted the barracks of this fort into a museum and library, and here he has gathered together precious documents relating to this great military highway of Colonial times. Various State and local societies have co-operated with Mr. Pell in rescuing from obscurity graves and other monuments interesting to the student, and, without having any authority to make a promise, I venture the personal opinion that any British officer presenting himself at the gates of Ticonderoga to-day would meet not only unconditional surrender on the part of the present gracious garrison, but would pray that his victorious campaign might last interminably.

Yours faithfully,

POULTNEY BIGELOW.

NOTICES OF BOOKS.

The History and Campaigns of the Rifle Brigade. Part I. 1800—1809.

By Colonel Willoughby Verner. John Bale, Sons and Danielson, Ltd. London.

The Rifle Brigade is far more fortunate than are the majority of our regiments, in that much of the early life and campaigns of the 95th Rifles may be culled from the many diarists who served in the regiment at that date, and especially from those who took part in the campaigns in the Peninsula of Moore and Wellington. There are some regiments of the Line which warred uninterruptedly in Spain and Portugal from 1808 to 1814, from Roliça to the Pyrenees and Toulouse, and which have left behind them no contemporary records, which contained in their ranks no single officer or man who has chronicled the stern tale of their marches and actions. Banbury of the Buffs has no more story to tell than of one twelvemonth among those fateful years—the 45th Foot found no contemporary diarist to record their splendid achievements; the 95th Rifles, on the other hand, produced from their two battalions no fewer than nine diarists who noted their experiences and impressions of Corunna, the Peninsula, Walcheren, and Waterloo. The work was thus appreciably lightened and the way made smooth for those who first took up the task of putting together a complete history of the regiment; and fortunately also the initial record was undertaken by Sir William Cope, an officer who had entered the army only 18 years after Waterloo had been fought, and who served with, and was able to inform himself from, many of those who had fought in the 95th during the early days of its existence. Then, since Sir William Cope's history first appeared, a large mass of additional information has become available, and it is from all these copious sources that Colonel Willoughby Verner has drawn the material employed in the compilation of the history, the first volume of which has lately been published.

The period dealt with concerns only the 1st and 2nd Battalions of the regiment—the 3rd Battalion not being raised until 1809; and after recording the evolution of the Rifle Corps, and the formation of the Experimental Corps of Riflemen in 1800, the author describes the expeditions and campaigns wherein one or other, or both, battalions were engaged from the date of their being raised, to their return to England from Corunna in January and February, 1809. In part, or as complete units, these battalions were also engaged in the Expedition to Ferrol of 1800, the Battle of Copenhagen of 1801, the Expeditions to Germany in 1805, to Monte Video and Buenos Ayres in 1807, and to Denmark in the same year, culminating in the opening actions of the Peninsular War under Wellington, and the campaign of Corunna under Sir John Moore. This was a wonderful introduction to all the fighting in which the regiment was thereafter to take part; and the battalions were fortunate, not only in gaining what Lord Seaton described as the best possible experience, but they had the inestimable advantage of being trained under Sir John Moore at Shorncliffe in 1802-4, a training as to the details and methods of which we know so little, and can only judge of its quality by the subsequent work in the field of those regiments which passed through it. Colonel Verner tells us that he has for the last quarter of a century been collecting materials for this history; he has certainly made most excellent use of

them, and has produced a volume in every way worthy of the regiment. The performances of the Riflemen receive fullest recognition, but at the same time he gives a very clear exposition of the general operations in which the 95th, with other regiments, were playing their honourable part. There are some interesting portraits, a number of clearly-drawn maps, and many admirable illustrations; and not the least valuable of these latter are the reproductions of some of the water-colour sketches of the Corunna Campaign made by that earliest of British war-artists, Sir Robert Porter, whose work is far too little known to the military student, and whose sketches give a wonderfully vivid idea of the difficulties of the task which our soldiers had to overcome among the snow-clad mountains of Galicia.

Méthode d'instruction du groupe d'infanterie. By Commandant Royé, preface by General de Lacroix. Paris. Chapelot. 5 fr.

The great improvement in modern armament has introduced the combat by groups, and has at the same time made necessary the relative independence of these units. This independence again has made urgent the development of the initiative of the group-leader, who, while remaining as heretofore the actual trainer of his men, must now know how to train them under the best possible conditions. Thus arises the need for so educating this leader that he may be able effectively to prepare himself for his rôle of group commander—he must, in fact, be able both to train and lead his men. Up to the present there does not appear to have been anything among the French manuals which offered this dual form of instruction, but this want has now been filled by Commandant Royé's little book, the fruit of his ripe experience during the five years which he has passed as an instructor at a school of musketry, during which time he has trained rather more than 3,500 young officers and non-commissioned officers. His *Méthode d'instruction du groupe d'infanterie* is based upon the general principles of the conduct of the fire-fight, and aims at teaching the group-leader not merely how to act, but to act according to established rules founded upon the experience of practice; it is divided into two parts, the one dealing with theory, the other with practice, and in this latter the author has drawn up a number of exercises—*scènes vécues*—and which can very easily be reproduced and carried out either in the garrison or in the field. General de Lacroix has contributed a very appreciative preface to Commandant Royé's book; he describes it as one of the best works of instruction which has ever appeared, admirably suited to the needs of modern warfare, and declares that the exercises contained in the second part of the work are such as officers of all arms may study with very real advantage.

The Campaign in Thrace. By Major P. Howell. Hugh Rees, Ltd. 1913.

This, while it was one of the earliest to appear, is quite one of the best of the many books on the Balkan War which has so far been published. The matter contained in it originally saw the light in a series of articles contributed to *The Times* early in the past year, and since then, expanded and assembled into a number of lectures, it has been placed at the disposal of military officers, both at the Staff College and at Aldershot. Major Howell's acquaintance with and knowledge of the Bulgarians and the Bulgarian Army is unusually extensive; he appears to have first visited that country and studied its people and their military methods in 1903; he has, during several visits, traversed practically the whole of the area

covered by the campaign he here describes; and during the armistice between the first and second stages of the war he was permitted to pay a visit to the Headquarters of the Bulgarian Army in the field, and to the battlefields of Thrace, enjoying unusual opportunities for discussing past operations and plans, and studying on the spot the scenes of conflict in company with those who had played leading parts in the actions. Major Howell narrates his story as a very real admirer of the Bulgarian Army, but he is in no sense a partisan, and he makes no secret of the mistakes which were made, and endeavours, not unsuccessfully, to show how these might have been avoided. The lessons he draws for us are the obligation adequately to prepare for war in the days of peace, the need for constant practice in command by those likely to be selected as leaders on the outbreak of war, a study of the final stages of a battle, and the importance—despite the increasing difficulty—of pursuit to consummate a victory. The whole of the author's comments are admirable, and the maps illustrating his text are very clear and illuminative. In this connection it is gratifying to learn from Major Howell that while all available maps of Thrace are inaccurate, the best, as acknowledged by the Bulgarians themselves, is that prepared by the Geographical Section of our own General Staff.

FOREIGN PERIODICALS.

NAVAL.

AUSTRIA-HUNGARY.

MITTHEILUNGEN AUS DEM GEBIETE DES SEEWESENS. **December, 1913.**—Column as a battle formation. The tides in the Adriatic. Corrosion of condensing tubes. In what way are warlike operations influenced by oversea commerce; how was the naval policy of England dictated by this in the past, and in what way will it be influenced in the future? Traffic results of the Diesel motor-driven ship. Foreign Navies: England, Germany, France, Italy, Russia, the Netherlands, Spain, Roumania, the United States, Japan, China, and Siam.

FRANCE.

REVUE MARITIME. **November.**—Not received.

LA VIE MARITIME. **November 10th.**—The naval prefecture of Bizerta. The directorate of naval gunnery. Naval instruction.—**November 25th.**—In the Levant. A few reforms. **December 10th.**—Edouard Lockroy. The Battle of Trafalgar (a review of the Trafalgar Report lately published by our Admiralty). **December 25th.**—The Mediterranean. The development of the battleship.

MONITEUR DE LA FLOTTE.—**December 6th.**—Against the "Dreadnought." **December 13th.**—The Scout class of the future. **December 20th.**—The hull of the submarine. **December 27th.**—The evolution of the French submarine.

GERMANY.

MARINE RUNDSCHAU. **December, 1913.**—Thoughts on cruiser-action, with special reference to the Anglo-American War of 1812-15. The naval battle. The decisive events connected with the overthrow of Napoleon in the autumn of 1813. The early beginnings of the combustion engine. Canadian waterways. Exchange of views.

ITALY.

RIVISTA MARITTIMA. November, 1913.—Nelson's tactics at Trafalgar—a condensed translation of the Admiralty Trafalgar Report. About strategic reconnaissance. The progress and present state of maritime meteorology.

MILITARY.

AUSTRIA-HUNGARY.

KAVALLERISTISCHE MONATSHEFTE. December.—Style in jumping and the military seat. The employment of the cavalry at Mars la Tour. Why should the mounted attack by cavalry always be made in deployed lines? Suggestions for the systematic training of cavalry officers in patrol duties. Cavalry remarks on the new field service manual for the Austro-Hungarian Army. Swimming under service conditions for cavalry patrols. The motions of the horse at speed. New regulations for the cavalry signalling school in Germany. On forage.

STREFFLEUR'S MILITÄRISCHE ZEITSCHRIFT. December.—Not received.

BELGIUM.

BULLETIN DE LA PRESSE. December 15th.—To attack is to retain the initiative and therefore to conquer. § Characteristics and properties of various types of dirigibles. § The effect of fire arms in the chief campaigns from the 18th century to our own times. December 31st.—The effect of firearms in the chief campaigns from the 18th century to our own times. § Foreign military news.

REVUE DE L'ARMÉE BELGE.—Fire against moving targets. Field artillery: the quick-firing 120 m.m. howitzer. The organization of indirect fire by infantry. The War in the Balkans of 1911-12. The attack and defence of *fortifications d'arrêt* during a campaign.

FRANCE.

REVUE MILITAIRE DES ARMÉES ÉTRANGÈRES. December.—The German Military Budget for 1913-14. The Japanese Army.

JOURNAL DES SCIENCES MILITAIRES.—December 1st. Combination and communication in fortress warfare. A study of the consequences of the new organization of the cavalry. † New technics for infantry. Discipline and punishment in the French Army. December 15th.—A study of the consequences of the new organization of the cavalry. † German and French military instructors in Turkey. Field artillery in the Russo-Japanese war. * How should we organize our fortresses on the N.-E. frontier? * Discipline and punishment in the French Army. †

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*—to be continued.

†—continued.

§—concluded.

December, 1870. Combined movements in the naval warfare of the 17th century.* A talk on tactics. An epitome of two conferences on rifle fire in the field. From Coulmiers to Loigny.

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REVUE D'ARTILLERIE. December.—An artilleryman's views of the manoeuvres of 1913. The physical training of the artillery brigade. Wind correction. The employment of artillery in Morocco.

GERMANY.

MILITÄR WOCHENBLATT. No. 163.—The Prussian and Austrian presentment of the great operations of 1814.* Aviation in Russia during October. The memorandum on the training of the Anglo-Indian Army in 1912-13. **No. 164.**—The centenary of the 25th Queen Olga's Dragoons. Universal military service. The new Greek Army. Russians and Chinese *vis-a-vis* in Mongolia. **No. 165.**—On the attitude of Bernadotte during the 14th-17th October, 1813.* **No. 166.**—The revised edition of the *Règlement provisoire de l'artillerie de campagne*. On the attitude of Bernadotte during the 14th-17th October, 1813.‡ The health statistics of the German Army and Navy in 1910-11. **No. 167.**—The Prussian and Austrian presentment of the great operations of 1814.† The Servian victories. A secret paper of the Bulgarian Headquarters in the possession of the Greeks. **No. 168.**—Character. The fight with aircraft. Recruiting statistics of 1912. On cavalry operations. **No. 169.**—A hundred years ago.† The French fortifications on the Italian frontier. The importance of the spade in the attack. **No. 170.**—The Prussian and Austrian presentment of the great operations of 1814. Crossing rivers as on service by cavalry patrols. German and Danish field artillery. German wireless telegraphy in the South Seas. **Nos. 171-172.**—The centenary celebrations of the War of Liberation. Shooting, other than military, in Switzerland. Medical officers and recruiting. **No. 173.**—Ammunition expenditure in Manchuria. Frontier defence by Austria against Prussia. **No. 174.**—The importance of ski-ing in the German Army. New projects for the creation of Russian fortresses. **No. 175.**—The French cavalry division in peace. Latest news from the French Army.

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ARTILLERISTISCHE MONATSSHEFTE. December.—A retrospect of gunnery practice in 1913.‡ The work of a battery in the battle of Weissenberg. Skutari. The influence of distance and atmosphere on the projectile.

SWITZERLAND.

REVUE MILITAIRE SUISSE. December.—Operations of the 7th and 2nd Bulgarian Divisions during the first phase of the Balkan War, and during the siege of Adrianople. The rearward communications of the *Grande Armée* in 1806-7.‡ The battle of Cressier.‡ Military notes: Switzerland, Germany, United States, Portugal, France, and Holland.

*—to be continued.

†—continued.

‡—concluded.



CHARLES, LORD BARHAM.

Controller of the Navy from 1778 to 1790: Junior Lord of the Admiralty from 1794 to 1796: and was created Lord Barham in 1805, when he became First Lord of the Admiralty.

[From an Engraving after a drawing by Downman: block kindly lent by the *Navy Records Society*.]



